AIMA TRIENNIAL CONGRESS

CIMA XVIII 2017

10-13 MAY • TARTU • ESTONIA

PROCEEDINGS

Traditions and Change – Sustainable Futures

Eesti Põllumajandusmuuseum

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http://cima2017.publicon.ee

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International Association of Agricultural Museums (AIMA)

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Scientific Committee: Debra Reid, Kerry-Leigh Burchill,
Oliver Douglas, Merli Sild, Rando Värnik
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Introduction to CIMA XVIII

The purpose of AIMA is to educate the public about the significance of agriculture to human society, to explain the many ways that agriculture has evolved through time, and facilitate dialogue between museums across the globe about agricultural topics and discoveries. Today, museums face a momentous task of keeping up with changes while keeping alive the invaluable past. At AIMA's triennial congress CIMA XVIII we focussed on how traditions and rural heritage can be used to create changes for sustainable futures.

Agricultural museums take many forms – they operate as research institutions, as places of civic dialogue, and as repositories of tangible and intangible cultural heritage. Their collections grew during periods when rapid outmigration from rural and farm settings prompted public memorialisation of rural and farm experiences.

The following questions were addressed:

1. How can rural heritage be used to ensure global food safety?

2. Should modern museums expand missions to incorporate the current social reactions to agricultural controversies (such as GMOs, government regulation, and chemical applications and environmental effects)?

3. How do modern agricultural museums collect, preserve, and interpret social changes that have influenced/are influencing agriculture and rural life?

4. How do your museum's collections, exhibitions and activities introduce historical memory and practices?

5. How does your museum influence public opinion about agriculture (past, present, and future)?

6. How has your institution harnessed external partnerships to encourage discovery beyond the traditional agriculture museum experience?

7. What pressures from outside of your museum affect your daily operations or ability to plan in the long term? What strategies do you implement for proactive planning?

8. How do current issues affect your research, exhibition, and public programming goals?


TALLINN
ESTONIA
TARTU

Merli Sild

AIMA President, Chair of Organising Committee

It was a pleasure and a privilege to host CIMA XVIII in Estonia in 2017. I thank all who attended and contributed to our workshops, tours and plenary sessions. I sincerely hope that our Congress gave us all new ideas, new friends and fresh vigour to carry on with our day-to-day activities – with more cooperation and sharing to look forward to in the future.

Illar Lemetti

Chancellor of Ministry of Rural Affairs of Estonia

CIMA XVIII, the 18th Congress of AIMA focussed on the use of rural life heritage and traditions, to manage changes beneficial for sustainable future. The task is truly commendable. Just like in any other sphere of life, the role players of agricultural sector search for ways to use cultural heritage to pep up economy and improve our well-being in general.

The history of agriculture is also the history of mankind. Men started first attempts to domesticate different species of plants and animals approximately 10,000 years ago.

In Estonia, land cultivation dates to 4,000...3,000 years BC. The oldest traces of pollen of oats were found from Northern Estonia and originate from the beginning of the same area.

Many signs of agricultural processes can be found in our landscapes, but inevitably, everything created by men is perishable and will one day disappear. Therefore, the work done by our agricultural museums that preserve both material and intellectual property created by our ancestors, is truly very important.

Today's agriculture in Estonia can be described as diversified. We cultivate various crops, are among the most successful dairy producers in Europe and rank among the first with the proportion of land used for organic farming; beef cattle farming has developed fast and despite our northern climate we attach high value to the development of horticulture.

We rely on our history in many areas of activity. Cultivation and use of probably oldest registered rye variety in the world, called Sangaste and bred in Estonia, serves as one of the examples. Estonia can boast with a number of other varieties and species with a history that have become inseparable from our cultural history.

150 years ago, a decision was taken to establish a centre for the development of horse sector in Estonia. Development of a new horse breed was one of the results of the work, done by the centre. Today, the Government of Estonia has allocated

funding for the renovation of the historical buildings of the equestrian centre in Tori and rehabilitation of its activities. I do believe that this will become one of the best examples of making the most of our history and the achievements of our ancestors to promote rural life today.

The work done by museums and their staff in preserving and recording agriculture, introducing our agriculture and cultural history to the population, educating children and the youth, introducing our national cuisine and popularisation of healthy eating and many other spheres is worth the deepest respect.

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Ted (E.J.T.) Collins

The history of AIMA: a personal perspective

AIMA Occasional Paper (May 2016)

I first heard mention of AIMA in 1967, from Prof Gunter Franz, Head of the Department of Agricultural History at the University of Hohenheim, a large terrifying figure, expert on the history of the German peasantry. As he spoke very little English and I just a smattering of German, we communicated through an interpreter. The upshot was that I was duly enrolled as a collaborator, and the Museum of English Rural Life as a potential institutional member of the Association.

I attended altogether some 11 Congresses, the first at Hohenheim in 1969, the last at Poznan in 1998, initially as a MERL delegate, then a member of the Praesidium, then in the 1990s as joint-organiser of academic sessions, and co-editor of the Conference Report. Being now in my 80th year, my recall is not to be relied upon, and as many as the older members have retired or are dead, it is difficult to check facts or make good omissions. I duly acknowledge help from former MERL colleagues, Roy Brigden and John Creasy, but particularly Edward Hawes, whose personal recollections, correspondence with members of the Praesidium, and not least, fluency in German, proved invaluable.

My great privilege was to have been young enough to have met through Congresses many leading rural and agricultural historians and museologists. The list – by no means exhaustive – included Axel Steensberg, Sven Nielsen, Gritt Lerche (Denmark); Ivan Balassa, Imre Wellman, Peter Gunst (Hungary); Gunther

Franz, Wolfgang Jacobeit, Hans Haas, Klaus Hermann, K R Schultz-Klinken, R W Henning (Germany); Roberto Togni, Gaetano Forni (Italy); Henrick Novacki (Poland); Madame Mariel J.-Brunhes Delamarre, Francois Sigaut (France); John Schlebecker, Edward Hawes (U.S.A.), Jean-Jacques Van Mol (Belgium); Sune Zachrisson (Sweden), Hisashi Horio (Japan). Experts in their fields and in most cases multi-lingual, embarrassingly so (hence the joke question: what do you call a person who speaks three languages? answer: trilingual; and just one language? A. English), followed by French and English were the official languages of the Congress, and while many Eastern Bloc attendees had a knowledge of Russian, I never once heard it spoken.

The Congresses were memorable affairs, warm and hospitable, and much looked forward to, where new friendships were made and old ones renewed. I soon learnt that conference themes meant very little in such a wide ranging subject as ours, that the papers were not all of equal interest, or startlingly new. The majority of papers dealt with familiar themes in 19th and early 20th-century agricultural and rural history, centring mainly on crops, livestock and farming techniques, and individual museum collections. The related associated disciplines – ecology, historical geography, ethnology, folk-life – were less well represented, likewise as was practical museum work – storage, conservation, collections management, presentation, documentation, information retrieval systems, and public interface.

Plenary sessions were very much rubber-stamping affairs, and consisted of reports, resolutions, amendments to statutes and standing orders, future venues etc. In the main there was little controversy nor interventions from the floor. Meetings of the Presidium, on the other hand, could on occasion be more heated, the disagreements being mainly about changes to the statutes, interpretations of rules and procedures, and the perennial issue of membership fees. It was here rather than at open meetings, and then rarely, that differences arose between the two Blocs, the Eastern being more hard-line and authoritative, while the Western were of the view that decision-making should be more transparent and involve the wider membership. Disagreements, though, never soured personal relationships, which remained cordial throughout.

The evenings were spent in friendly discussion, and as the beer and wine began to flow, in music-making, dancing, and singing. As I remember, Dr. Vontorcik from Slovakia possessed a fine tenor voice. Memorable too was the fuss made when at the Lindlar Congress, our hosts discovered that Ed Hawes and I not only shared a birthday, which fell during the Congress, but were born on exactly the same day, in 1936! Gifts were instantly produced, and many toasts drunk.

I was made aware too of the diverse nature of ‘agricultural museums’, some national, some university, but the majority funded by local and regional

government, farmers' associations, or voluntary organisations. Most attendees worked in museums or universities. The academic disciplines represented ranged from agriculture and agricultural history, to engineering, ecology, animal and botanical sciences, and ethnology, which made for a most useful exchange of ideas and information.

It was only much later, on reading Zdernik Tempir's excellent retrospective in the final issue of the Acta (Acta Museorum Agriculturae, vol. 22, 19891), that I learnt something of AIMA's origins. The inter-war years, a surge of enthusiasm for creating international organisations partly to promote world peace, and most notably the League of Nations, a movement in which the newly independent countries of Eastern and Central Europe were prime instigators. A plan to create an International Agricultural Bureau to disseminate technical, economic and policy information was probably modelled on the Institute of Agriculture founded in Rome just before the war to collect agricultural statistics.

Thus inspired, the Hungarian and Czechoslovak national agricultural museums tried to promote the establishment of an international association of agricultural museums, which failed due to agricultural depression, a worsening international situation, then the Second World War, followed by the Cold War, and in 1956, by the Hungarian Crisis and Russian Invasion. Discussions between the two museums were broken off in 1956, and resumed only in 1962. Four years later, an International Congress was held at Lidice Castle in Czechoslovakia. The principle elements of the proposed international new association – an elected Presidium, permanent secretariat, triennial Congresses, and a published Proceedings – were agreed in principle at Lidice, and confirmed at the Hohenheim Congress in 1969, testimony to the vision and perseverance of its two initiators.

See the AIMA website for a full Index and table of contents
https://agriculturalmuseums.org/publications/

The aim of the new body was to provide an international platform for scholars where agricultural history and other related disciplines could meet to exchange ideas, promote research, and mutually cooperate. The sub-text was that it provided the Eastern Bloc, otherwise isolated, with a gateway and point of contact with the West. Younger readers may not realise the constraints under which Eastern European colleagues laboured in the post-war period. Travel to the West, while not debarred, was tightly regulated. Permission to travel abroad was difficult, and foreign currency hard to acquire. Conference papers were vetted in advance for ideological transgressions, while some delegations included a secret informer. I clearly recollect at Stuttgart- Hohenheim in 1969, a year after the Prague Spring, Eastern

Bloc colleagues having to meet secretly, behind closed doors, to exchange news. Russian delegations to the West, I'm told, had to submit to group photographs so

as to monitor their movements and discourage defectors. A curious fact, difficult to explain, was that although invited, very few Russians attended the Congresses, despite the USSR's large numbers of ethnological museums. Nor, disappointingly since I taught the subject, did socialist agriculture or farm collectivisation, much feature in either academic papers or in private discussion. Equally baffling, nor was it much in evidence at any of the Eastern Bloc museums which we visited as part of Congress programmes. That said, it came as no surprise to learn that following the break-up of the Soviet Bloc in 1990, the main ambition of the so-called Visegrad group of countries – the Czech Republic, Hungary, Poland, Slovakia, the backbone of AIMA, named after a meeting in a Hungarian castle in 1335 – was to join the European Union at the first opportunity. Which they duly did, thereby providing my household with a succession of excellent Slovakian home-helps, and the city of Reading with hundreds of Polish waiters and building workers.

The political upheavals of the early '90s were not quite the watershed in the Association's history as might be thought. The Congresses continued uninterrupted, with the differences, first, that where previously they had been held in Eastern and Western Bloc countries more or less alternately, after 1990 all but one was held in a former Communist country. And secondly, that for financial reasons, from 1989 the Czechoslovak Museum was no longer able to host the Secretariat, nor, after 22 issues, to publish Acta Museorum Agriculturae.

While colleagues from the former Eastern Bloc could travel freely, the constraint was now one of affordability. I remember at one Congress a 'whip round' having to be made to pay the return fares of several of the members from one Eastern European country. The parlous state of Eastern Bloc museums following the fall of Communism was cause for concern. The raison d'être of museums, cultural main-planks of the old regime, began to be questioned, and as government and party structures were dismantled, so many museums were closed down. Following German Re-unification, Klaus Hermann, Director of the German Agricultural Museum at Hohenheim, was commissioned to report on agricultural museums in the former GDR, to assess their relevance and search out any residual political bias.

One of his duties, he told me, was to draw up a new concept plan for the Mecklenburg Museum near Leipzig, entitled "45 Years of Socialist Agriculture in Germany – an Experiment". A number of museums were adversely affected by the return of properties sequestered in the Socialist era to their original owners. The Museum at Nitra, for example, had to return its premises, to the Catholic Church, re-locate to an agro-exhibition site outside the town, at the same time merging with another organisation and undergoing a radical change of purpose.

It became clear that AIMA needed to undergo a major change in organisation and objectives not only to meet but to respond to the changes taking place in both

the rural economy and society at large. In the 1960s, most museums regarded themselves and were regarded as 'knowledge-based institutions', responsible for conserving and interpreting the past, admittedly with limited popular appeal (all those glass cases), but catering for mainly rural audiences or individuals with a scholarly interest in rural history. In the larger museums at any rate, in addition to their routine duties, senior staff were obliged to engage in research and to publish. In the establishment, a clear division existed between academic (scientific), technical, and clerical/administrative staff, with scholarly achievement ranking more highly than practical or administrative ability.

The most serious problem facing agricultural museums today, often over-looked, is the declining importance of farming in national life. The challenge is how to appeal to a predominantly urban population entirely, with little or no knowledge of farming or the countryside.

In a paper presented at the Nitra Congress in 1995, I raised the question of how far agricultural museums needed to adapt to meet these changes, given that most were still rooted in the horse and early machine age. In the 1970s even, few museums in the advanced countries, had acknowledged, still less come to terms with, the transformation. In the late 19th century, 50-80 percent of the active population of southern and Eastern Europe worked on the land, and in the industrial countries of northern and western Europe, still 30-50 percent, Britain alone standing out, with less than 10 percent. Furthermore, over much of Europe, only 20-30 percent of people lived in towns, while in southern Europe and the Balkans, rural populations reached their historic peak only after 1950. By the mid-1960s, in western Europe, with the 'rural exodus' in full swing, the traditional peasant economies were being replaced by more market-oriented systems of production and employment. Yet, many townspeople still had farming connections. At MERL, Andrew Jewell, my first boss, was reluctant to label items in the permanent exhibitions, because he said most visitors were country folk and so could readily identify them. I doubted that.

By the year 2000, the post-war transition was effectively complete, with barely any European country, excepting Rumania, Bulgaria, Slovakia, Poland, Greece, and Portugal, with more than 15 percent of its workforce employed on the land, and in the higher income countries, fewer than 5 percent, and in Britain, Germany, Belgium and Switzerland about 1 percent. Only a small minority of English villages have as many as 10 percent working on the land. The overwhelming majority of villagers, many of whom were in-migrants from towns, work away from the village, commuting daily. Often un-noticed, is the growing isolation of farmers within the village community, as their economic importance and social position weakens.

The self-sufficient village, in so far as it ever existed, is a rarity, most of the old village crafts and industries now long gone, followed by the village shops.

The agricultural sub-structure too has changed – inputs such as fertilisers, machinery, chemicals, fuel, advice – being supplied from within the wider economy. Cultural convergence together with rising incomes has meant that consumption patterns and living standards in rural areas tend to be little different from those nationally, or at any rate, the gap is much narrower, and closing.

These changes have important implications for the scale and composition of museum audiences, and visitor expectations. Few people nowadays, apart from the very old and the widely-travelled, have seen a horse or ox drawing a plough, corn being cut with a scythe or reaping-machine, or wood-men making hay-rakes or sheep-hurdles. More worrying, visiting agricultural museums is very much a seasonal occupation. Many of them struggle with static or falling attendances, or have closed down. Shut from October to April, they are marooned in the countryside until spring.

How then do agricultural museums flourish in a world in which agriculture has lost its primacy and where most people live in towns? Current attitudes are nicely summarised by two comments attributed to the late President Kennedy. The first, in his first meeting with his chief agricultural advisor and eminent economist, John Kenneth Galbraith: "I only want to hear about agriculture from you Kenneth, and I don't want to hear it from you either". As for cows, he remembered as a boy being taken by bus to see them milked.

In England at any rate, the 1970s and 1980s were something of a watershed, with museums under increasing pressure to broaden their appeal, and to entertain as well as inform the wider public. By the 1990s, museums had become noticeably less 'stuffy,' more utilitarian, more outward-looking, and socially more inclusive. Success was now measured less by academic reputation, or even quality of the collections, as by visitor numbers. In England, university museums, including MERL, were thrown into confusion. On the one hand, the Higher Education Funding Council (HEFCE) ruled that the main purpose of the annual revenue grant was to support research and teaching in the higher education sector. On the other, the criteria applied by the Department of Culture, Media and Sport, a government agency, and the Heritage Lottery Fund, an independent body, were 'inclusiveness' and public benefit. As the priority shifted, museums required fewer highly qualified researchers and curators, and more managers, designers, fund-raisers, and experts in communication.

These problems were seldom discussed at AIMA meetings, at least not officially. In the early 1990s, Edward Hawes was raising them privately with members of the Presidium. The immediate priority, he said, was to find a new home for the Secretariat and publisher for the Proceedings. The second was to define, solidify and expand the membership. The Membership List, so-called, consisted of the

names of those persons who had attended previous Congresses. An analysis of the list by Sune Zachrisson revealed that many of those featuring were no longer involved with the subject, had retired or died, and that apart from a hard-core, attendance at Congresses was irregular, mostly just once or twice, and in the case of leading museums, seldom if ever.

Moreover, no one in the management team was specifically responsible for membership and maintaining regular contact with it between Congresses. At the 1995 Congress, Hawes proposed (1) that a 'formal membership' be instituted, consisting of two classes, institutional and non-attached; (2) that an annual subscription be raised to cover administrative costs and to fund initiatives; (3) that an 'organiser' be appointed for each country / region / continent; and (4) that the Presidium should consist of museum directors or their nominees, and a small number of individual members.

After a lengthy, inconclusive discussion, it was decided not to proceed with the proposal, as many smaller museums in Eastern Europe were not currently able to afford the subscription payable in euros or US dollars. But as our Scottish member reminded: "there must be some source of income that will support even a modest commissariat to administer the organisation and keep the membership in touch." I gather the matter is still undecided. At this stage, the papers from the Danish and Italian Congresses were still unpublished.

The other priority was to re-define AIMA's aims and objectives so as to be able to communicate a clear idea of what AIMA was about, and the tangible benefits of membership. How much, Hawes asked, should it be concerned with the past and how much with the present? How much with developed and how much with developing countries? How much with agriculture and how much with wider contexts? My Nitra paper listed a range of issues, some deliberately controversial, which might be addressed, such as the post-war decline of the peasantry, the rise and fall of socialist agriculture, food security, health and nutrition, food processing, the human food chain, agricultural sustainability, alternative agricultures, organic farming, GM crops… Themes such as art and agriculture, the countryside in the popular imagination, alternative uses of the land, rural in-migration and the rise of the commuter village, might appeal to a wider audience.

The creation of AIMA was a bold and successful experiment. Some think it overly conservative, and slow to adapt to the changing needs of agricultural museums and contexts. Its governance, based on an outmoded Middle-European model, was thought by many of the younger members to be undemocratic and lacking transparency. Some thought its programme too narrowly historical and academic, with more attention needing to be paid to practical issues, more broadly in tune with the winds of change blowing through the museum world since the 1970s.

After my retirement in 2001, my interests shifted. It was with some surprise, and considerable pleasure, when in 2014, I was invited to talk about my personal recollections of AIMA to a meeting of the 'Executive Committee', to be held at MERL. I discovered a new spirit abroad, and a younger generation of members at the helm, keen to reform and re-launch

the association after its near collapse in the preceding decade. The Constitution had been largely re-written, and the aims in the process of being re-formulated, with a sharper focus on museum practice, targeted at museum professionals. For me, the most welcome surprise was that so many of the key positions are now occupied by female members, in marked contrast to earlier times when it was very male-dominated. A weakness in the past, was the reluctance – partly due to the advancing years of the founding members, and partly its cost, affecting particularly museums in the former Eastern Bloc – to embrace IT. This appears to have been largely remedied.

The future looks hopeful. I hope that future generations will acknowledge the enormous debt owed to AIMA's original founders, the Czech and Hungarian agricultural museums, and their achievement at the height of the Cold War in building an academic bridge between the two Europes. 78 persons attended the 1966 Congress, all Europeans, almost entirely male, 73 from the Soviet Bloc, 5 from Western Europe, and as yet none from other continents. By the mid-1980s, the geographical balance had noticeably altered, to include delegates from a dozen or more western European countries, and others from North America and as far afield as Egypt, Japan, India, and Mexico. Likewise the gender balance, there being now a small but growing female presence, a portent of things to come. The meetings, 22 in all, had a serious purpose – professionally and intellectually, but also socially, the striking-up of friendships, and genuine camaraderie. Looking back, I am proud to have been part of what historians of the post-war period will show to have been a unique contribution to international understanding. Dare it be said, sometimes I wish that the Wall had never come down.

Reading, May 2016

NOTE: Ted shared a draft with AIMA Executive Committee members during the July 2015 meeting at the Museum of English Rural Life, Reading, England.

Workshop 1

Sustainable Agriculture – Past and Future. Fibre Plants

Workshop leads:
Oliver Douglas, Museum of English Rural Life, UK
Rando Värnik, Estonian University of Life Sciences, Estonia

Dorota Matela

Curator, History of Rural Areas and Agriculture Department
National Museum of Agriculture and Food Industry in Szreniawa, Poland
d.matela@muzeum-szreniawa.pl

Dorota graduated from the Faculty of Horticulture at the University of Life Sciences in Poznan in 1983 as a specialist in fruit-growing (pomology). From 1984 to 1993 she was employed by Fruit Growing Department of the State Agricultural Farm in Rosnowo as a plant protection and fertilization expert. In 1995 she started working as an assistant in the National Museum of Agriculture in Szreniawa. After completing the Postgraduate Museum Studies in Torun in 2004 she became a curator taking care of traditional plants, old varieties of fruit plants, ecology, herbal medicine, and has been entrusted with the land as a garden to use it wisely.

OUR MUSEUM'S ACTIVITIES FOR DISSEMINATION OF KNOWLEDGE ABOUT SUSTAINABLE AGRICULTURE

Be a person in creation, a brother among brothers.

Embrace all created beings with love and devotion.

You have been entrusted with the land as a garden use it wisely.

Take loving care of man, animals, herbs, water and air so the land does not remain deprived.

[St Francis of Assisi]

There is no doubt that our world would look very different if people listened to the words of this humble monk, St Francis of Assisi. 800 years have passed before we fully understand their meaning. It was only in the 1970s that mankind realized that the population growth and cultural and economic development of societies must not be at the expense of the environment, and as a result an idea of sustainable

development emerged. According to its definition the use of natural resources should consider the environmentally acceptable and economically and socially sustainable framework. It is paramount to maintain the biosphere potential to meet the needs and aspirations of future generations.

Photo 1 *Senator Stanisław Karłowski - the first ecological farmer of the 1930s who adopted the biodynamic farming method*

The Constitution of the Republic of Poland of 1997 contains a clause on "the protection of the natural environment pursuant to the principles of sustainable development". In its activities, the National Museum of Agriculture in Szreniawa is somewhat ahead of the official state policy. We have been organising cyclical exhibitions on ecology in agriculture and on the environmental protection since the 1970s. In the early 1990s we got involved in education of the youngest generation in an attempt to create a safer future. We chose several primary schools located in our province and visited them systematically trying to instil in children a sense of connection with nature and respect for it. To stir their imagination, we showed them films on ecology and a topical exhibition adequate for their perception.

Agricultural land constitutes 60% of Poland's territory therefore farmers bear huge responsibility for the protection of land they cultivate. To support their education, Szreniawa Museum employees publish articles on the implementation of environmentally friendly food production technologies. They show that farming in harmony with nature is possible. It was proved as early as the beginning of the 20th century by senator Stanisław Karłowski, the owner of a 1700-hectare farm.

He was the first Polish farmer who successfully adopted the biodynamic farming method and did not use artificial fertilisers. He used only appropriately processed manure and compost. During numerous outdoor events held at the Museum, we teach visitors about the balanced organic and mineral fertilization based on soil analyses that we apply in our fields. To prevent the multiplication of pests, spread of weeds and soil degradation, we use crop rotation according to the correct selection and succession of plants. A continuous vegetation cover in the form of a meadow for haylage is maintained on a part of our farm. We also carry out regular field inspections and we use chemical spraying only after damage threshold is exceeded. All these efforts are aimed at protecting the biological diversity of the soil. Today we know that more than a quarter of all earthly species live in the soil and that they are responsible for production of our food. The Museum uses ethnographic demonstrations to show the visitors that soil is more than just a lifeless surface. Our ancestors already knew this. They believed that human life was closely linked with nature and its condition. Every year, on the first day of spring, the Proto-Slavic priests offered sacrifices to the god Jarilo, who was rising from the earth to create a new life.

Photo 2 *Ethnographic demonstration - the Proto-Slavic priests offered sacrifices to the god Jarilo, who was rising from the earth to create a new life.*

Over the last twelve years or so, the Museum has also got involved in preservation of biodiversity in agriculture. In 2005 we set up a garden of traditional crop plants

within the Museum farm where we grow millet, buckwheat, flax, false flax, turnip and Jerusalem artichoke. Our visitors can not only see them - they are also invited to take part in their harvest and taste them. This gives them an opportunity to directly discover those forgotten and very healthy plants and experience new tastes. We are particularly proud of our organic orchard of old varieties of fruit trees, once common in the landscape of Polish countryside. The organic orchard - to save the old valuable varieties from oblivion.

Photo 3 *The organic orchard - to save the old valuable varieties from oblivion*

We have a collection of 21 old varieties of apple trees grafted on Antonovka. The most interesting are: Malinówka Berżenicka, Grafsztynek, Glogierówka, Landsberska and Kosztela - particularly favoured by the king John III Sobieski. Recently, to save the valuable varieties from oblivion, we set about their budding. We also got in touch with a private tree nursery, which is prepared to collect budsticks from our orchard to produce old apple trees.

The reduction of energy consumption is an extremely important issue for the sustainable agriculture. In the face of the current energy crisis and the problem of global warming draught animals are becoming increasingly important.

The Museum of Agriculture in Szreniawa supports the Polish Association of Keepers and Friends of Workhorses. Our aim is to change the widespread perception and the belief that a horse symbolises backwardness of rural areas. During our outdoor events we show various options for using these "live engines".

Photo 4 *The "live engines"*

The eco-trac together with the horse, can be used for almost every agrotechnical procedure. It is also important that old agricultural equipment can be used and there is no need to buy new machinery. We successfully convince owners of smaller farms that the use of horse power is more economical than the use of tractors. A horse is the most ecological solution - instead of polluting the environment – it enriches it and limits the destruction of soil structure.

Polish agriculture is dominated by family-run extensive farms oriented at multi-directional production. It is crucial to improve the income situation of farmers as this is the main obstacle to taking up pro-ecological activities. Trying to reinvigorate the young generation living in villages we invite local producers to Museum's fairs. This way we help them to retain their farms and we promote local products.

Photo 5 *The local producers at festivals*

We also fulfil the visitors' expectations who no longer wish to buy the unhealthy "corporate" food. They come to us to get healthy products, that give them more than just hunger satisfaction. Nowadays, consumers are looking for advice regarding food and they receive it from local producers of traditional crops. Trust is the additional value of such production. It delights us that we can facilitate contacts between the producer and the consumer and reduce the supply chain to a minimum - thus to prevent the loss of food quality. Those who participate in our events are primarily families with children. We try to make sure that the youngest visitors get their healthy treats from the old cookbooks - smoked plums, baked plums on a stick, millet with plums or baked apples. We let the children learn about good eating habits and teach their parents how to be responsible consumers. We make them aware that their decisions to buy an unhealthy sweet containing palm oil have irreversible results. More and more primary forests in Malaysia are burnt to free land for oil palm plantations.

Let us all remember about Confucius' words:

"If your plan is for one year plant rice.

If your plan is for ten years plant trees.

If your plan is for one hundred years educate children."

Dr Hisashi HORIO
Professor Emeritus, Kobe University, Japan
horio@ae.auone-net.jp.

Hisashi Horio graduated from Department of Agricultural Engineering at Kyoto University in 1967. He was engaged in education and research on farm machinery in Kobe University, and retired in 2009.

He was and is also engaged in study on history of agriculture, especially agricultural technology and ethnology. At present, Dr Horio is a member of AIMA Executive Committee and President of Japan Society of History of Industrial Technology.

WATER AND APPROPRIATE TECHNOLOGY BY RICE CULTIVATION PLOUGH OF WIDE AND MEDIUM-LONG SOLE

INTRODUCTION

The sufficient water supply is the fundamental condition for growing rice. The right land condition is always limited. In the regions of rice cultivation as primary crop, anywhere indiscriminately, somewhere far from right land, peoples have been forced to cope with disadvantage; less water supply and/or heavy water leakage. The construction of large scale irrigation system requiring investment had/has been limited, especially at developing stage or in developing area. And, the retentivity (keeping water in soil) is important problem even in developed stage and areas.

How to keep water in rice paddy field at developing stage or in developing area far from advanced technology? Wide and medium-long sole plough is the appropriate technology as arranged for keeping retentivity.

WATER IN RICE PADDY FIELD

The schematic is shown in Fig.1. Soil pan is formed by harrowing and ploughing flooded paddy field and prevents water leakage and controls vertical penetration (certain vertical penetration is need). By harrowing the fine-particles of soil set and cover soil pan, and by ploughing the wide sole bottom plasters soil pan (called as water-ploughing for distinct from normal upland ploughing).

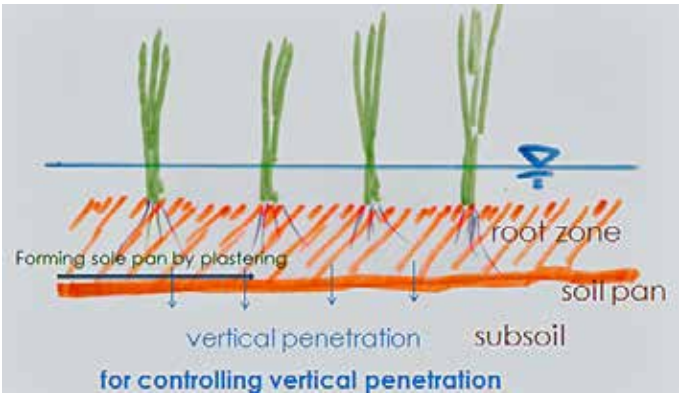


Fig. 1 *Schematic of rice paddy field*

FUNCTIOAL ASPECTS FOR VARIOUS KINDS PLOUGHS

Two types of plough were introduced from north China and Korean Peninsula in ancient time, respectively the one was long sole plough and the other was no sole plough (Fig.2).

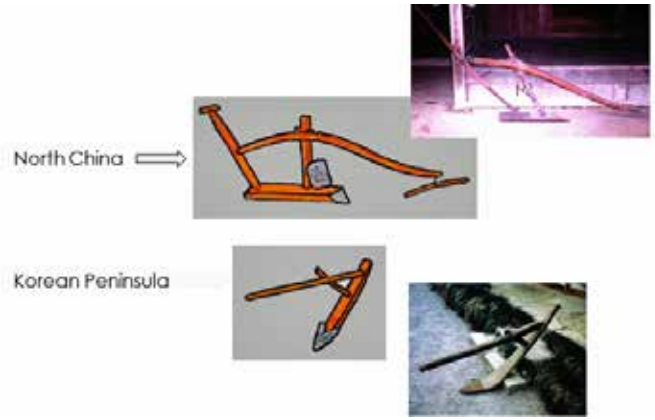


Fig.2 *Introduction of ploughs to ancient Japan*

Long sole plough was developed in ancient era of China by modified from transferred from the middle East World for fitting to dry farming of shallow tillage. The shallow ploughing is stably conducted by wide and long sole. Deep tillage is impossible by large draft resistance caused by soil adhesive resistance.

No sole plough was used in upland farming. It requires less draft resistance by lacking sole. Deep tillage is possible by limited power of one animal. The fatal defect is extremely unstable draft and requirement of heavy work for operation

The farm literature edited in middle 18 C. at south region of Japan, "Fukuoka Noushi" (Farm Pictorials)", shows interesting figure of four kinds as shown in Fig. 3.

The figure shows medium long sole and short sole ploughs, which are considered to be formed as a cross between long sole and no sole.

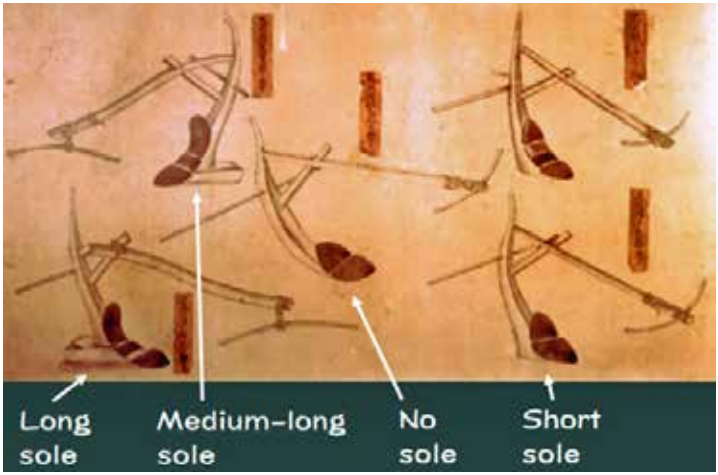


Fig. 3 *Various type of ploughs in the middle18 C., Japan from "Fukuoka Noumushi (Farm Pictorials in Fukuoka)"*

Table 1 Functional Comparison

	Draft stability	Draft resistance	tillage depth	plastering
Long sole	High	ext. large	shallow	well
No sole	No	less	deep	no
Medium-long sole	Enough	intermediate		enough well
short sole	Enough	small	deep	poor

The functional comparison of various plough-types used in rice cultivation of Asia is presented in Table 1. Indigenous short sole plough used in local area of south Japan was modified to high performance for deep tillage and complete soil inversion (turning) in Modern Era.

After the closing the three hundred years seclusion, the knowledge introduced from the Western World was a subject of national development attaching the interest of Japanese, also in the sector of agriculture. Tillage device and method was especially understood to be free from the common sense; the deep tillage by a plough was impossible. The improvement of tillage method was understood as the matter to be settled for time being. Transferred western plough was so heavy to be drafted by one animal. The development of usable plough to satisfy the condition of deep tillage and less draft power was encouraged. Advanced short sole plough had widely prevailed and supported high yield rice production in modern Japan.

MEDIUM-LONG SOLE PLOUGH

The general view and the bottom view of medium-long sole plough is shown in Fig.4. This plough is considered to be formed as a compromise of both function of plastering of the long sole and tillage depth of the short sole.

Fig. 4 *General view and bottom view of wide and medium-long plough (photo by Horio)*

Advanced short sole plough has less plastering function because of its extremely narrow sole. After the diffusion of advanced short sole plough, medium-long sole plough was yet used in the field of heavy water leakage in objecting plastering as 'Appropriate Technology'.

When we turn our observation to other area, we can see same cases or examples. Let introduce the case at Laos from author's field works in 1993 and 1994 (Fig. 5). Medium-long sole plough was selectively used in rice paddy field. The interesting case was surveyed; tractor mounted rotary tiller was introduced under the land consolidation project supported by JICA (Japan International Cooperation Agency) and designed by 'specialist'. Introduced rotary tiller gathered rust and was put at field side. Farmers turned to use

indigenous medium-long sole plough. Rotary tiller was not available in the field of heavy leakage. Rotary tiller was excluded. Soil pan had to be plastered by sole bottom of plough. Even by such plastering water loss in depth was recorded over 10 cm par one night from author's investigation. Iron pipe flamed ploughs were put at the farm tool shop, which were designed with indigenous medium long sole (Fig. 6).

Fig. 5 *(left) Water ploughing by medium-long sole plough, in Laos, 1993 (photo by Horio)*

Fig. 6 *(right) Present-made medium-long sole ploughs in Laos,1994 (photo by Horio)*

CONCLUDING REMARKS

This paper shows one example of 'Appropriate Technology' by citing the short history and field survey of 'Medium-long Sole Plough'. Even at the diffusion stage of advanced technology, Indigenous technology has/had been applied as 'Appropriate Technology'.

FURTHER PROBLEMS

E. Werth's "Grabstock, Hacke und Pflug" and P. Leser's "Entstehung und Verbreitung des Pfluges" present many kinds ploughs all over the world. The great works by Emil Werth and Paul Leser give us the way to world-wide discussion on ploughs.

However, they may be limited in morphological matter. We are requested to expand the study on left problems; to be approached from comparative and functional view points, and also in relating to farm operations.

The authorlike to present final remark; such approach requires wide co-operations between historians, ethnologists, technologists and so on. The development of such studies may be managed and supported by museums' activities, and AIMA.

Dr Chantal Bisschop

Staff member intangible cultural heritage

Centre for Agrarian History (CAG)

Atrechtcollege, Naamsestraat 63,
3000 Leuven, Belgium

chantal.bisschop@cagnet.be

CHALLENGES & OPPORTUNITIES IN SAFEGUARDING THE CULTURE OF THE BELGIAN DRAFT HORSE

The culture of the Belgian draft horse has a long and fascinating history. However, nowadays, the current tradition bearers or draft horse lovers are struggling to give their beloved horses and heritage a sustainable future. The Centre for Agrarian History (CAG) is supporting them in a long-term safeguarding trajectory. This paper will give a short overview of the challenges and opportunities of safeguarding traditions in which animals play a crucial role. With a focus on the culture of the Belgian draft horse, we share our practices and expertise concerning inventorying collections, raising awareness, involving communities and assembling all the different stakeholders, encouraging transmission, participatory video for documenting agricultural techniques and ethical issues and animal welfare.

Belgian draft horses had been the driving forces for the agricultural and industrial sector until the 1950s-1960s. The origin of this famous breed goes back to the 19th century. Heavy horses, in addition to oxen, were used already for centuries in agriculture. The 19th century, however, was a turning point: at that time the heavy draft horses became indispensable. The great expansion of trade and industry was caused by the steam engine, an improved road system, better machinery for agriculture and a considerable growth in the draft horse population. The number of draft horses in Belgium increased from 229.000 in 1880, over 251.000 in 1900 to 278.000 at the eve of the First World War. Draft horses were needed in agriculture for the use of heavier agricultural machines like sowing-machines, harvesters or reapers. Draft horses worked also in the transport sector, in harbours and docks, in the canal shipping trade or in mines.

Ploughing horses - repro KADOC-KU Leuven_archive Boerenbond

The standard of the new breed 'the Belgian draft horse' originated out of three local 'types' of heavy horses. The broad recognition of the draft horse as a national breed came after the victory of the stud horse Brillant at the World Exhibition in 1878 in Paris. The standard was set in the Belgian draft horse Studbook (1886). Breeding and selling Belgian draft horses became soon big business. A lot of horses were exported to the USA, Canada, Germany, The Netherlands or Russia. The Belgian draft horse became not only a symbol for large farms, it stood also as a symbol for the whole country. The province Brabant in particular, where the international centre for draft horse trade was situated, is still identifying itself strongly with this beautiful horse.

The heyday of the Belgian draft horse was between 1880-1930. Today they lost their economic importance. Certainly after World War II, the number of draft horses dropped down rapidly. Today there are approximately 7.400 Belgian draft horses and 300 breeders left. With the horses, the knowledge of breeding, the traditions of competitions with all social conventions and rituals are disappearing. Moreover, there are only a few persons left with the knowhow of working with theses draft horses.

Therefore, the province of Flemish-Brabant wanted to set up a safeguarding project. The Centre for Agrarian History (CAG) is supporting the heritage community in a long-term safeguarding trajectory.

CAG is recognized by the Flemish government as an expertise centre for the heritage of agriculture and food. CAG aims to study and safeguard the history of agriculture, countryside and food since 1750.

CAG wants to make this heritage accessible for a broad, national and international public. For this purpose, CAG offers support, advice and tailor-made cooperation with all active participants, organisations and people interested in the heritage of agriculture and food. CAG aims to inform, educate as widely as possible, by means of publications, lectures, events and the internet. The necessarily academic support is provided by its sister organization the Interfaculty Centre for Agrarian History (ICAG) of the University of Leuven.

As an accredited NGO by UNESCO in the framework of the 2003 Convention, CAG has been developing much experience with safeguarding intangible cultural heritage (ICH). CAG is specialized in made to measure safeguarding trajectories and support for different heritage communities. The centre is focusing on UNESCO Domain 4 of 'Nature & Universe' or the knowledge, knowhow, skills, practices and representations developed by communities by interacting with the natural environment. CAG is particularly concentrating on 'food and culinary traditions' (e.g. Belgian Beer culture, the cultivation of Belgian endive), 'landscape' (e.g. the tradition of blessing the blossoms) and 'animals' (e.g. shrimp fishing on horseback or the culture of the Belgian draft horse).

The first step in the safeguarding trajectory of the culture of the Belgian draft horse consisted in making a solid inventory of all existent collections and traditions concerning the draft horse. Research visits to all sort of public and private collections and surveys by telephone and mail gave us not only a clear look on the tangible heritage still preserved. It was also an excellent opportunity to get to know all the different stakeholders and raise awareness amongst them. The results were published in an elaborate research report which is online available for everyone on www.hetvirtueleland.be/bronnen/rapporten. The broad public can also look at a selection of the diverse heritage material in a virtual collection: http://www.erfgoedplus.be/nieuwsbericht/nieuwe-collectie-trekpaardencultuur-vlaams-brabant.

To involve all communities concerned, a broad information moment was organized and communicated as wide as possible. About 100 horse lovers, breeders, heritage lovers, collectors, veterinarians and museum employees listened carefully to the announcement of the whole project and asked all sort of questions. A call for heritage material for the inventory was launched. Likewise, we made an appeal to the public for volunteers for the Trekpaardenraad, the council of draft horse. There was a massive response. The province and CAG had to choose the candidates carefully to have representatives of the whole heritage community and still have a workable number of stakeholders.

This process of involving the communities is the most important stage. In the spirit of the 2003 Convention of the safeguarding of intangible heritage, the communities are at the centre of everything. The draft horse council is currently consisted of a breeder, veterinarian, farmer, draft horse museum, CAG, province, draft horse youth, collector, chairman of the studbook, chairman of draft horse working club and a social entrepreneur. The draft horse council is functioning as the 'steering committee' of the safeguarding of the culture of the Belgian draft horse. Experience shows that assembling such a varied group of stakeholders is a good recipe for the safeguarding of ICH, because it combines different voices and different points of view. CAG already used the same strategy in the safeguarding projects of the Belgian fries culture, beer culture, blessing the blossoms, the tradition of a swimming dog championship …

Unlike some other heritage communities, however, the draft horse lovers are not an easy group to work with. They are very passionate, but they disagree on very fundamental issues. Finding a neutral chairman with enough authority to 'handle' this group proved to be an appropriate solution. We found a professional mediator with a strong agricultural background, a former veterinarian who have held several high functions in the Belgian agricultural and food sector. That was a very good move, because one could immediately feel the mutual respect between the stakeholders and the chairman, even in the discussion of the most delicate subjects.

Half a dozen meetings were organized, in which the group discussed several themes: what is exactly the culture of the Belgian draft horse, what are the strengths, weaknesses, opportunities and threats and how can we assure a future for this intangible cultural heritage? We were raising awareness about the dynamic concept of ICH and were encouraging transmission. The group chose six priorities to work on in order to safeguard the culture of the Belgian draft horse. Then, for the second time, the broad group of all draft horse lovers were assembled to give their feedback to this safeguarding plan consisting of six priorities:

1. To breed a healthy horse
2. To stimulate young breeders, to support and educate them
3. To promote a multifunctional and versatile draft horse
4. To stimulate the visibility of the Belgian draft horse, the social basis of public support: draft horses are popular by children and are iconic for the broad public, so the promotion of recreational, touristic and sport activities are just some of the many possibilities
5. To stimulate the export and economic profitability to make breeding draft horses more attractive
6. To raise awareness about the heritage of the draft horse, to gain more knowledge about the culture of the draft horse and to gain more expertise in techniques

Fokken van een gezond trekpaard

DOEL

Gezonde paarden die langer leven

MOGELIJKE OPLOSSINGEN

- invoeren bindende **veterinaire analyse** en selectie op medische aspecten vóór keuring
- **stimuleren fokkerij vrij van CPL**
  - stimuleren wetenschappelijk onderzoek naar genetische kenmerken
  - verbinden van voordelen aan fokken met streng gekeurde hengsten
  - vergroten van transparantie in afstammingsbewijzen
- **heroriënteren keuringsnormen** naar karakter, behendigheid en werkkracht, i.p.v. exterieur en esthetiek (bv. gebruiksproeven)
  - inzetten op vorming keurders
  - internationalisering jury-samenstelling
- **delen van kennis en informatie** tussen wetenschappelijk onderzoek, fokkers, keurders en gebruikers

En welke concrete oplossingen zie jij?

The group got to work, formulated several plans and started up a number of projects to tackle the different problems. In the meantime, an extensive application file was prepared for the Inventory of intangible cultural heritage in Flanders. Since January 2018, the culture of the Belgian draft horse is officially recognized by the minister of culture as intangible cultural heritage. The recognition was an extremely joyful moment for the draft horse community, a much-appreciated reward for all the work that has been done, but also a very good motivation to carry on the safeguarding measures.

But it was not just a good news show. There are some very delicate issues concerning the culture of the Belgian draft horse, more specifically in the ethical sphere of animal welfare. The Belgian draft horse has a rather small gene pool and all those years breeding in order to become the heaviest horses with the characteristic big legs have caused severe health issues. The 'bad legs' or chronic progressive lymphedema (CPL) is the biggest disease and most threatening for the survival of this bread.

The most severe controversy around the Belgian draft horse however, is his characteristic bobtail. The longstanding tradition of cutting the tail of the draft horses is prohibited since 2001 in Belgium, but thanks to loophole in the law, still performed on large scale. Within the group of the draft horse lovers there are severe supporters and heavy opponents of the bobtail. This issue was thus forming the most precarious discussion topic in the whole trajectory. Moreover, during the autumn of 2017, the minister of animal welfare announced a new decree in order to tackle the loophole in the law. Trying to reach for consensus was vain hope, so with the help of the neutral chairman the group they sought for a workable solution as best as they could.

To support the group in safeguarding their intangible heritage, CAG choose the way of making the community aware of the possible overwhelming media attention and possible issues. It is not possible to support traditions which are against the law, so we let them think about it, to become more reflexive about the subject. Nowadays it is still a very controversial issue within the community.

After the recognition in January 2018, CAG keeps on supporting the safeguarding of the culture of the Belgian draft horse. In addition to this, CAG is partner in the new PDPOIII-project 'Belgian draft horse, together we give heritage a future' (2018–2019). Other partners are the province of Flemish Brabant and two draft horse organizations. After the loss of the economic and agricultural function of this horse, this project is looking for new uses to safeguard this heritage in the long term. Several future-oriented techniques will be defined, documented, communicated and educated to new users. CAG is especially involved in making participatory videos of several draft horse techniques. Moreover, several generations draft horse lovers are thoroughly interviewed. Together with the results of the research report, these oral history sources will form the base for a new publication (December 2018) about the intangible heritage of the culture of the Belgian draft horse.

Barbara Sosič

Curator of rural economy and transport
Slovene Ethnographic Museum (Slovenski etnografski muzej), Slovenia
barbara.sosic@etno-muzej.si

Barbara Sosič is an ethnologist by training (graduated from the Faculty of Arts in Ljubljana in 1990).

Since 1990 she has been a curator in Documentation department of Slovene Ethnographic Museum, since 2004 heading the department. In 2009 she has become a national examiner for museum documentation. In 2012 she started working as a curator also in the Department of rural economy and transport.

Her special interests are heritage of water transportation, beekeeping, vine-growing, fibre plants and multistage Alpine pastures in Slovenia. She is also interested in history of Slovene ethnology and history of Slovene Ethnographic Museum, she was much involved in presentation of ethnological materials on the Internet, and made some research on ethnological photography and dedicated some effort to document Slovene ethnological collections outside Slovenia.

GROWING FLAX AND HEMP IN SLOVENIA TODAY

In the middle of 20th century plants like hemp or flax were still providing us with clothes, food and medicine. For Slovene peasants, home woven flax and hemp linen were the only fabrics, besides wool, used for making garments, underwear and other linens until the second half of the 19th century. The culture of flax and hemp had an undisputed economic and consequently social significance. Despite of thousands of years of use of hemp and flax for fibres, seed, oil, and in medicine, in the beginning of 20th century they were gradually replaced by cheaper imported fibres like cotton, jute, manila, sisal. Cellulose was, replacing hemp and linen, widely introduced for production of paper.

Due to the intensification of agriculture in the mid-20th century in Slovenia, the number of crops on farms declined. After the Second World War, people were gradually abandoning the growth of flax and hemp, which were very important in the rotation of crops on every self-sufficient farm. As we know, self-sufficient farms no longer exist and for example, hemp needs three-to four- year rotation and linen needs even more - six to seven-year rotation.

Flax – a universally useful fibre and oilseed plant

In the past, almost every family on the Slovenian countryside grew at least a small patch of flax. They spun and wove the fibre to make their own bed linen and clothes, underwear, towels and other textile for home, but through time, its vital role in everyday use was lost. Today it is still playing an important role in traditional folk costumes and in traditional linen embroidery in some parts of Slovenia.

Photo 1 *Flax harvest and flax-braking in Bela krajina, photo by Fran Vesel, 1920*

Linen, which was some 80 years ago used for everyday clothing in eastern part of Slovenia, became gradually too expensive comparing to other types of textile for clothing. In the end, it was also considered out of date - elderly people only used it. Home production of linen is a very time-consuming process. Traditional crop care was, and still is, for those who grow it, manual. Staring with sowing, weeding, the plants are then plucked, then bundles are made and left to dry, seeds are taken off, stems have to be spread on the field to ripe, then you have to crush stems on a jig to clean the chaff out of the fibres, which have to be combed. Then the yarn is spinned on spindles or on spinning wheels, and the thread is used for weaving on a loom.

Photo 2 *Flax harvest and flax-braking in Bela krajina, photo by Fran Vesel, 1920*

Today, they only produce linen in Bela krajina, mostly by elderly people, aged 70 to 80, who see their skill and knowledge as a precious value, which they got from their ancestors. They keep all the traditional tools and process for manufacturing hardly any new products, no modernisation is applied, even when they see no possibility in transfer of this ancient craft to the next generation. Actually, many younger people possess knowledge, but see no future in it, as at the end of the day, they get no proper earnings for the products made through such hard work. Unfortunately, not even local communities appreciate this work enough to put some effort into promotion, which is so important today. In addition, the government and other institutions put little attention to this traditional craft. Only in Nature Park of Kolpa River, they try quite hard to revive the cultivation of flax and demonstrate its possible use in everyday life to the visitors, but everybody knows that this is not enough.

Production and processing of flax should not remain just an attractive cultural and historical presentation of this activity at some tourist farms in Bela krajina; it should also present a challenge to young farmers to find the place for this crop in organic production of food and other raw materials with the use of mechanisation and modern technological procedures. The production and processing of flax presents the possibility for increased biodiversity of the cultural landscape and revitalization of rural areas.

Photo 3 *Flax harvest and flax-braking in Bela krajina, photo by Fran Vesel, 1920*

Photo 4 *Weaving ribbons with a weaving board, 1912*

In the last some decades, new fashion for trendy clothes from natural fibres on one hand, and on the other, awareness of healthy diet reflected in the market demand for products from flax again.

Photo 5 *A woman, weaving homemade cloth, 1935*

Flax is gaining popularity for production of seeds and oil, which have both traditionally been used for food, in medicine and in industry. Flaxseed oil is used for food and to treat a variety of conditions. To produce flaxseed oil rather than yarn, a different species of flax is sown today. However, for a successful business there has to be a chain of producers, processors and traders. Unfortunately, there is no such initiative in Slovenia now; everything is left to individuals to find their own reason to produce flax.

Hemp

Hemp, unlike linen, tells a better story. In the past, hemp was grown on nearly every farm and it was used for making ropes and home-woven, very durable linen. After the Second World War, it was gradually vanishing from the fields and was finally forbidden as it was regarded as a potential drug. After its reintroduction about 20 years ago, the interest for growing it is constantly increasing. For quite some time, hemp used to be a cause for tension between potential growers of hemp for fibre and seed and opponents of drugs. In Slovenia, there was new seed introduced, which has much lower contents of THC than the traditional one.

Course of sustainable agriculture in Slovenia is nowadays based on a wider crop rotation. In the long term this contributes to naturally achieved better harvest of the next crops, lower costs for fertilizers and chemical products to protect crops from weeds, pests and diseases on one hand, and on the other, seeding more crops ensures the distribution of income throughout the year. Today farmers are entitled to subsidies and the government finally sees growing hemp as a big challenge and an opportunity for developing new jobs.

We have a saying in Slovenia for children when they grow really fast: »He grows like hemp! « You can imagine how fast that is, since hemp needs about 100 days from sowing until harvest and it uses immense amounts of CO2. Hemp, according to the versatility of its use, is ecological and commercially very attractive. Farmers can easily produce and sell their own oil and seed.

Some three years ago a Konopko cooperative was established which gave an impulse for much quicker development of all phases in the chain. It is a link of producers and processors of hemp, innovators, researchers and others. They want to ensure a socially beneficial way of producing and processing hemp. They support smaller and medium sized producers, they promote and encourage the development of organic farming and sustainable supply of hemp, including hemp products.

Hemp is an all-natural, ecological and fully degradable material. It is known for having the strongest and toughest fibre of all plants. Nowadays, we have learned how to make close to 50.000 products from this plant. It may be used in construction, food technology, medicine, textile, cosmetic, paper and automobile industry, where it can also work as a substitute for fossil fuels and from hemp, biodiesel can be produced.

Through the cooperative, new products are being developed. Use of hemp hurds can be widely used in constructing. Hempcrete is ecological material from hemp hurds, lime and water, which is strong, lightweight and breathable, flame, water and pests resistant, energy efficient as it is highly isolative, last hundreds of years, it is natural and non-toxic.

Also, from hemp hurds, we are able to make fibre boards and plywood. Cellulose from the same basic material may be used as an adhesive making the finished product 100% organic, biodegradable, insect resistant and waterproof.

Hemp insulation is thought to be an ecological equivalent of stone and glass wool, used as insulation for roofs and facades but is significantly lighter and considerably more moist resistant, besides it has a negative carbon footprint.

A new product, Plastic Biogranulate, gained a national award for best innovation of 2015. This is an eco-friendly, fully degradable material, which can replace

non-degradable synthetic materials. Hemp granulate, produced from renewable resource, sometimes even from bio-waste like hemp stem, can easily replace other thermoplastic resins, produced from fossil fuels. On the other hand, hemp fibres are more durable, lighter and stronger.

Products from hemp fibres can be used several times and be composted at the end of their lifetime. Identified customers are manufacturers of technical products in different industries: Automotive, Constructing, Electro, Optical, Medical, Packaging industry and many others.

Supported by governmental subsidies, there is a project in one of the socks factories which is producing a new line socks from hemp, and other interesting products.

An increased usage of hemp-derived products could provide us with different benefits. Hemp definitely it is a crop of the future and it can clearly contribute to the sustainable development of country's economy.

Photo 6 *Building a sauna from hempcerete*

Arnold Pastak

Director
Olustvere School of Service and Rural Economics
arnold.pastak@olustvere.edu.ee

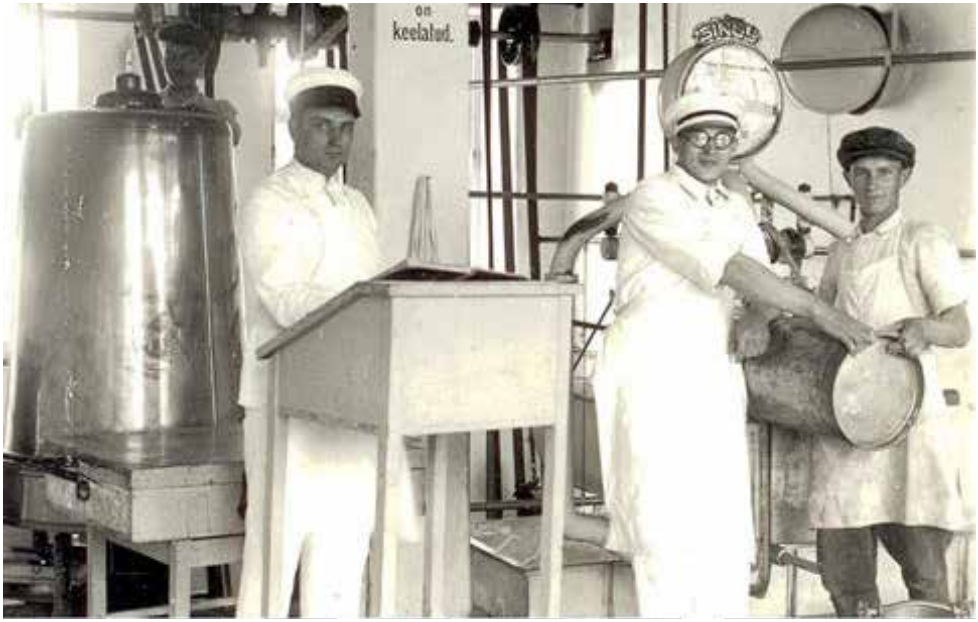
Mr Pastak has been the director of Olustvere School of Service and Rural Economics since 1989. Owing to his extensive managerial experience, he has also been elected chairman of the rural municipality council of Olustvere and Suure-Jaani Municipality from 1993 to 2014, and of Põhja Sakala Municipality from 2017 onwards. He has participated in the activities of the Council of Tourism Development in Southern Estonia, and in the development activities of Viljandi County. He has been engaged in EU projects since 1995 and quality assurance since 2003.

130 YEARS OF AGRICULTURAL VOCATIONAL EDUCATION AT OLUSTVERE SCHOOL OF SERVICE AND RURAL ECONOMICS

Olustvere School of Service and Rural Economics is a state vocational education institution located in Olustvere in the municipality of Põhja Sakala in Viljandi County administered by the Ministry of Education and Research.

On 20 August 1888 Estonian Aleksander City School with instruction in Russian was opened in Põltsamaa. In this school, besides other subjects, soil tilling and gardening were also practised. Unfortunately, the sentiments of 1905 reached the school also and in 1906 tsarist authorities closed the school down due to revolutionary activities of the teachers and students. However, from 1907 onward, the Ministry of Agriculture allowed the organisation of Russian-language training courses on field work in the premises of the school and from 1909, at Kõo Manor. On 27 January 1914, Estonian Aleksander Lower Agricultural School was opened at Kõo manor, near Põltsamaa. The school had a training farm with

326.6 hectares of land, 50 cows and 12 horses. On 22 August 1919, the school was renamed Estonian Aleksander Middle Agricultural School and in December 1920 the school were transferred from Kõo to Olustvere Manor in order to create better learning conditions. Viljandi branch of the Estonian Farmers' Society and by Viljandi County Government began to finance the school.



On 1 August 1938, the school was renamed Estonian Aleksander Olustvere Agricultural Secondary School; in January 1941, Olustvere Agricultural Technical School. In September 1941, the school was renamed Olustvere Higher Agricultural School; in October 1944, again Olustvere Agricultural Technical School. The same period saw the creation of the school's training farm, which stretched across 544.43 ha in 1957. 1 October 1960 saw the separation of the technical school (which remained under the jurisdiction of the Ministry of Agriculture) and the training farm, which became an independent state farm within the Estonian Research Institute of Agriculture. On 18 September 1964, the technical school and the state farm were joined once again to form Olustvere State Farm Technical School.

After the restoration of independence, on 6 July 1992, Olustvere Higher Agricultural School was created; at the same time, Olustvere State Farm Technical School operated until the end of the reform in agriculture, In 1999, the school was transferred from the administrative area of the Ministry of Agriculture to that of the Ministry of Education and Research, and on 5 January 2000, the school was named Olustvere School of Service and Rural Economics. In 2006, the former Õisu School of Food Industry was merged with the school.

By now, the formerly agriculture-oriented school has become a vocational educational institution which provides education under five groups of curricula: agriculture (incl. beekeeping), tourism, catering and accommodation services (rural tourism services, tourism management; guide, chef and waiter training), food processing (technology of milk and meat products, pastry, beverages), design and handicraft (textile crafts, ceramics, glassblower's assistant's training), business services (secretary, accountant and office assistant training).

One of the strengths of the school at Olustvere is the fact that it stands out from other vocational educational institutions in Estonia. February 1994 saw the creation of the school's training farm on 520 hectares, 340 ha of which was field and 68.1 ha forest land. Crop production became the main activity of the farm. Today the farm stretches across more 600 ha of land, and some of the cultivated land is also rented.

The main aim of the training farm is to operate as a practical training centre with modern technologies and equipment and a high-level production culture. Due to this aim, the training farm has the following tasks:

- provision of practical training for students;
- professional development of specialty teachers;
- continuing vocational training for farmers;
- provision of hobby education in the field of agriculture;
- achievement of a high level of production;
- co-operation with research institutions, schools, enterprises, etc;
- testing new technologies, performing field tests.

All works in the training farm are performed in the course of the practical training of the students.

Students grow cereals (winter wheat, winter rye, barley, spring wheat, oats), rape, potatoes and other cultivars. The training farm is also responsible for the maintenance of the 7-hectare Olustvere manor park and that of the school's collection garden.

The school manages the Olustvere manor complex, which is one of the most fully preserved manors in the Baltics. The manor is unique in Western Europe for its main building, built in the style of an English country house, and the complex of nearly thirty buildings and facilities. The layout and design of the

manor complex are very artistic. The buildings were built in 1850–1915. The outbuildings are stylish; most of them have been made of fieldstones and red brick. In terms of architectural history, Olustvere Manor is an example of high-quality carpentry and masonry, most of which have been endured to the present day. The manor complex and the surrounding park are protected under heritage conservation.

The manor as one of the structural units of the school, started to be developed into a practical training base in the areas of tourism, catering and accommodation in 1995. Several services are provided there: there is a tourist information point and a museum there, and catering, accommodation, party, event and seminar services are also provided. The school has tried to restore the manor through thematic workshops where every visitor can practise some activity or visit permanent or temporary exhibitions.

There is a blacksmith's shop, patchwork, ceramics, glass blowing, textile, bread making and honey workshops in the complex. The main building of the manor also boasts the antique furniture collection of L. M. Vene; the rooms are available for seminars, conferences, public events; the building can also be booked for celebrating family events. Thematic workshops also provide practical training for the students.

Additionally, there is a laboratory for performing microbiological and chemical analyses. In 2010, the training facilities of the school were built in four different units: facilities for preparing bakery, milk and meat products and beverages.

In parallel with putting up the new building, the existing canteen was refurbished. Thus, the school gained convenient and modern premises for providing practical training but also a place where everybody from the neighbourhood as well as

those coming from further away can have a delicious lunch or buy bakery, meat or milk products prepared by the students of the food processing department. The school allows entrepreneurs to use its premises and equipment for product development.

Olustvere School of Service and Rural Economics is one of the most versatile vocational educational institutions in Estonia with its training farm, manor complex and training facilities. It is a so-called food-chain school, which connects manufacturing (agriculture) with processing (food processing) and services (chefs, tourism, handicraft). The slogans of the school, "From the field to the table" or "Olustvere lays the table", are known both in and outside the county. Our school provides both formal education and continuing vocational training and welcomes both adults and young people. The school provides co-operation opportunities for entrepreneurs and other partners by the practical training facilities. The school also provides the community with the possibility to engage in hobby and leisure activities. Olustvere is known for its beautiful environment, diverse possibilities and hospitality among both colleagues and those coming from further away.

Welcome to Olustvere School of Service and Rural Economics!

Kerle Kadak

Guide-teacher
Estonian Agricultural Museum
info@maaelumuuseumid.ee

KEEPING FLAX CULTIVATION TRADITIONS ALIVE AT ESTONIAN AGRICULTURAL MUSEUM

Flax plant played a very important historical and cultural role for Estonian farmers. The history of flax cultivation in Estonia goes back by 3000 years.

In the 17th–18th centuries each farm was supposed to have its own flax field in order not to run short of clothes.

In the middle of the 19th century, after abolition of serfdom, farmers began to acquire titles for their farmland from local landlords. Flax cultivation for commercial purposes gave this process a considerable boost. Farms in the best flax growing areas in Estonia made the best use of these favourable market conditions. The farmers in this area immediately acquired titles of their farms. In the middle of the 19th century first flax processing plants were founded in Estonia. Industrial linen appeared next to home-woven one.

Flax was still grown at the beginning of Soviet period in Estonia. Mechanisation owing to the scientific-technical revolution reached flax fields as well. Since 1960 flax cultivation in the Estonian Soviet Socialist Republic began to gradually decline.

Estonia's re-gained independence in 1991 was followed by a sharp decline in flax cultivation.

Flax processing and raw flax plants were closed down. Today the fibre flax is no longer cultivated in Estonia.

Some enthusiasts still hold the flag of Estonian flax cultivation high, growing oil flax in South-Estonia and preparing linseed oil and linseed flour. Natural and harmless linseed oil is used for covering wooden surfaces. Oil protects wood from harmful environments and brings forth its beautiful pattern. Linseed oil and flour are also healthy and useful supplements to the food production.

Estonian Agricultural Museum has done a tremendous job due to preserve Estonian flax growing and processing traditions and knowledge. The museum has rich museum collections – 672 items connected to flax growing, processing and fabric weaving. Museum's permanent exhibition „Flax in Our Daily Life "gives a thorough overview of flax growing history in Estonia.

A guided tour of flax exhibition

It shows historical tools for different kind of flax works, flax products and handicraft including 18 metres long handmade linen cloth donated to the museum by handicraft master Vilhelmiine Tuvi. The museum has developed an educational program „From Flax to Linen "for schoolchildren.

Children who participate in the program try flax sowing by hand in spring and flax pulling in autumn at the museum's field.

They work with old flax tools at the Rye barn workshop, try painting with colours based on flaxseed oil, visit the flax exhibition, watch the educational film „The Story of Estonian Flax" and taste food products made from flax seeds. The participants get the workbook about flax which the museum has made for teachers and schoolchildren, so they could work with it after visiting the

museum. The museum has a good cooperation relationship with Estonian main oil flax grower Kalju Paalman and the program is supported by him. The museum has also participated with this educational program in many different events all over Estonia including International Tartu Hanseatic days.

Flax plant has played a very important part in Estonian history of farming and culture. Estonian Agricultural Museum tries to remember and treasure that by keeping traditions alive.

Anne Jorunn Frøyen
Curator NMF, Jaermuseet, Norway
ajf@jaermuseet.no

THE SHEEP, THE DOG AND THE SHEPHERD. A RURAL HERITAGE AT CHANGE?

Every summer more than 40 000 sheep are moved from lowland to highland on the southwest coast of Norway, and back again in autumn. The tradition has survived during the last 150 years because it has been able to adjust to new technology, opportunities, law and regulations. It has also been able to recruit new generations of shepherds, although it is a low-wage occupation in a region where both employment and wages has been rather high. The museum documented the tradition 20 years ago, and is now studying it again. This presentation will discuss the changes in the tradition in the last years, and give an example of how agricultural museums may collect, preserve and interpret social changes that are influencing agriculture and rural life.

Photo: Anne Helen Robberstad/Jærmuseet

Transhumance, like this one, is in Norway one of a very few examples of using remote mountain areas in food production. It also secures good animal health, and good quality food. And it is a tradition, not based on inputs like fertilizer or grain feed, but on the knowledge about the animal, the landscape and its available recourses. It is a tradition that exemplifies how rural heritage can be used to ensure food safety.

Marie-Christine Aubin

AFMA/AIMA, France
marie-christine-aubin@orange.fr

HOW THE KNOWLEDGE OF BUCKWHEAT CULTIVATION AND CONSUMPTION IN THE PAST CAN HELP TO DEVELOP THAT CULTURE TO FEED IN INCREASING POPULATION IN THE FRAME OF A SUSTAINABLE AGRICULTURE?

« Pain de blé passe aisément, pain de sarrasin s'arrête au gosier» [Proverbe français] / « La bouillie de sarrasin est notre mère, le pain de seigle est notre père » [Proverbe russe]

« Wheat bread goes through easily, buckwheat bread gets stuck in the throat » (French proverb) / «Buckwheat mush is our mother, rye bread is our father » (Russian proverb).

The cultivation of the buckwheat has been introduced in west part of France during the 15th century. It was a small part of the crops, but essential for the alimentation. It belonged to the rent dues to the landlord.

Due to the French Agricultural Revolution at the beginning of the 19th and the improving of the quality of soils, the buckwheat disappeared completely from the fields and from the meals. It stayed in Britany where the typical world-famous meal is the *"galette de sarrasin"*, even if nearly all the flour used in the "crêperies" is imported from China or Russia.

It survived also in some other parts of France, where it gives the theme of some villages feasts.

Recently, with the increasing number of people intolerant to gluten, the interest for the gluten free buckwheat is growing day by day. The cultivation of buckwheat is spreading again in western France, part of it in organic farms, and a lot of different products (flour, semolina, puffed buckwheat, bulgur, flakes, spaghetti, crozets, mixed seeds to be cooked, grilled buckwheat, kasha...) are now available not only in dietetic shops but also in supermarkets. Salty as well as sugared recipes are filling up new cooking magazines, books, internet sites, inspiring our "chefs" for creative delicious meals, taking away the buckwheat from the traditional *"galette"*.

That trend is international, and research teams all other the world are collecting the existing varieties of buckwheat to improve their qualities in order to cultivate it in larger regions than traditional ones, expanding it on the 5 continents, trying to get 2 or 3 crops a year, improving also their nutritional qualities, to feed more people.

Buckwheat is used mainly for human alimentation, but also for animals alimentation, as well for its agronomic, medicinal, industrial uses in the frame of a sustainable agriculture, as far as it does not need chemical fertilizers neither chemical treatments, having very few deceases or insect pests.

Comment la connaissance de la culture et de la consommation du sarrasin dans le passé peut contribuer au développement de cette culture pour nourrir une polpulation croissante dans le cadre d'une agriculture durable ?

« Pain de blé passe aisément, pain de sarrasin s'arrête au gosier, … » : ce proverbe en dit long sur l'opinion que les Français avaient du sarrasin lorsqu'il était cultivé dans de nombreuses régions de France et qu'il servait de base de l'alimentation pour la population pauvre ou lors des crises alimentaires. C'est une des raisons pour lesquelles sa culture en a été délaissée dès que l'amélioration des terres a permis de le remplacer au profit du blé, céréale noble donnant le pain blanc, délaissement qui s'est étalé selon les régions de l'Europe occidentale et de l'Amérique du Nord de la moitié du XIXème siècle jusqu'à la moitié du XXème siècle.

« La bouille de sarrasin est notre mère, le pain de seigle est notre père ». Ce proverbe russe affiche une opinion toute opposée à celle des Français et permet de comprendre que dans ce pays, comme en Pologne, le sarrasin est resté une base de l'alimentation consommée avec plaisir depuis son introduction au XIIème siècle jusqu'à maintenant, sans discontinuer.

Wheat bread go through easily, buckwheat bread get stuck in the throat (French proverb)// Buckwheat mush is our mother, rye bread is our father (Russian proverb)

Affiche publicitaire de la farine de sarrasin TREBLEC de 1993 – Musée de Bretagne à Rennes. Publiée p. 174 du livre « Quand les Bretons passent à table », BUHEZ, Ed. Apogée, Rennes, 1994

Nourriture du pauvre, nourriture du laboureur et de l'ouvrier, nourriture des périodes de famines, nourriture dépréciée par les personnes aisées qui mangeaient le pain blanc de blé, le sarrasin qui était beaucoup productif que le blé, le seigle, l'orge, était très bon marché. Il est devenu cher depuis que sa consommation est revenue récemment à la mode dans les parties du Monde où il avait cessé d'être cultivé et consommé. En 2012, en France, la tonne de blé valait 176 euros, celle de sarrasin 396 euros, soit plus du double.

Tout récemment, depuis moins de 30 ans, et surtout depuis une dizaine d'années à peine, les consommateurs découvrent les saveurs et les vertus nutritionnelles de cette graine qui, autrefois consommée sous 5 formes (graine grillée bouillie, bouillie, galette, pâton bouilli, pain), est maintenant présentée sous une multitude de formes solides salées et sucrées comme sous forme liquide (lait, thé, bière, whisky), tant en France qu'à l'étranger, par une industrie agro-alimentaire d'une imagination sans limites et des chefs cuisiniers de renom, tel Alain DUCASSE qui, entres autres recettes délicieuses à base de sarrasin, est allé jusqu'à concocter une glace au sarrasin.

Cette explosion soudaine de la consommation du sarrasin est liée à divers facteurs :

- le retour à un mode de vie traditionnaliste et régionaliste qui « permettait à l'homme d'avoir une vie de meilleure qualité », opinion actuelle enjolivée que n'avaient certainement pas nos aïeuls ;

- la découverte par différentes équipes scientifiques à travers le Monde des nombreuses vertus agronomiques, alimentaires, industrielles et médicinales du sarrasin qui corrobore l'expérience millénaire empirique des agriculteurs de l'Asie, de l'Europe puis de l'Amérique du Nord.

- le désir toujours plus grand d'une nourriture saine, cultivée en agriculture biologique, de préférence, à tout le moins en agriculture raisonnée, puisque le sarrasin ne nécessite pas de produits chimiques pour sa culture, n'étant pas sujet aux maladies ni aux ravageurs et n'ayant pas besoin d'engrais.

- la découverte de l'absence de gluten dans le sarrasin qui permet aux personnes qui sont allergiques au gluten de pouvoir consommer une farine sans problème. Sa consommation est bénéfique aussi pour les diabétiques. Elle aiderait aussi à améliorer la santé des personnes irradiées.

Le sarrasin apparaît comme une panacée, une plante miracle, dont, soudain, les vertus sont portées à la connaissance de tout un chacun, dans les revues féminines, dans les revues de santé, dans les magasins « bio », sur Internet. Il y a brutalement une pléthore d'articles et de recettes dans toutes les langues, qui contraste avec l'information réduite à une ou deux recettes dans les livres vantant une nourriture saine des années 1930 – 1950.

Une culture pratiquée sur les 5 continents : du pays où la culture apparaît, de ceux où la culture est millénaire, de celui où il y a une seule productrice à ceux qui l'ont pratiquée pour la faire disparaître et en recommencer la culture depuis 30 ans et même plus récemment :

Le sarrasin est originaire des confins de la Chine du Sud-Est et de la Birmanie (O. OHNISHI (1)).

Cette plante a pu se diffuser dans le Monde entier, car elle se contente de sols pauvres, sans dédaigner les sols plus riches mais pas trop azotés. Traditionnellement, elle venait souvent en tête d'assolement car son système racinaire fait qu'elle ameublit le sol, que son feuillage couvre entièrement le sol, empêchant le développement des adventices, qu'elle est peu gourmande en azote, le laissant pour les cultures suivantes. Après la récolte des graines à la faucille et non à la faux pour éviter d'en perdre trop, les tiges étaient enfouies pour servir d'engrais vert. Elle n'a pour ainsi dire pas de maladie ou de ravageur et ne nécessite donc aucun traitement chimique. Elle ne demande pas non plus d'engrais chimiques. Sa seule faiblesse est sa sensibilité au froid, au brouillard, à la grêle, aux fortes pluies, à la sécheresse, qui peuvent diminuer ou compromettre sa récolte. Donc, elle se développe mieux sous les climats tempérés et en altitude (jusqu'à 3090 m à Gora Tabela au Népal (2)).

Poster of the Buckwheat Festival in Vigneux de Bretagne – 9/09/2018


Harvesting with a sickle


The «man »


Harvesting with a reaper

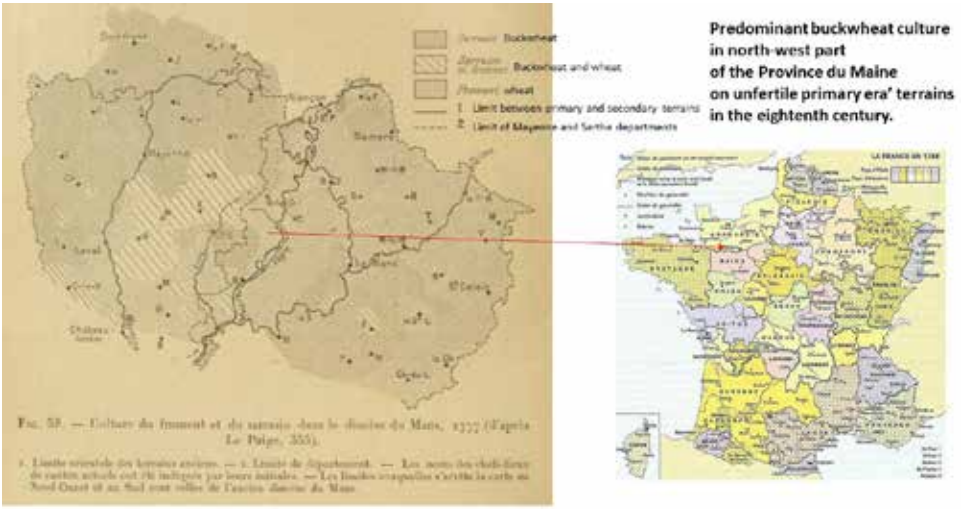
Harvesting and threshing the buckwheat in the Rural Ecomuseum in Vigneux-de-Bretagne on 9th september 2018

Threshing with perches

Threshing with a roll beat grains

Threshing with a threshing machine moved with a tractor

Son cycle végétatif court a aussi été un atout dans sa diffusion : 120 jours, avec un semis pouvant s'étaler de mai à juin et une récolte d'août à octobre. Il a pu donc être planté en culture dérobée, fournissant une récolte alimentaire supplémentaire très importante autrefois quand les rendements de seigle et de blé étaient faibles. Il a aussi permis d'avoir une récolte alimentaire quand les récoltes des cérales principales avaient été détruites par les intempéries ou les ravages des guerres très fréquentes en Europe. A. BOUTON écrit que la culture du sarrasin s'est développée dans la province du Maine à cause des guerres successives qui l'ont ravagée : Guerre de Cent Ans puis Guerres de Religion (3) . R. PESCHE signale: « 17 paroisses des environs d'Alençon et du diocèse du Mans, situées sur la rive gauche de la Sarthe, dont 6 du canton actuel de Saint-Paterne, ayant été grêlées le 25 juin 1737, le subdélégué de Domfront reçoit ordre de l'Intendant d'Alençon de leur faire distribuer du sarrasin. Ces paroisses sont Bérus, Arçonnay, Gesnes, Moulins, Béthon, Oisseau et Hellou. »(4)



Culture of wheat and buckwheat in the Le Mans' diocese in 1777 after LE PAIGE in « Le Bas-Maine – Etude géographique » by René MUSSET, 1917.

R. PESCHE, auteur du Dictionnaire topographique, historique et statistique de la Sarthe, 4271 pages en 6 volumes édités entre 1829 et 1842, durant cette période de 13 ans qui correspond à la mise en place de la Révolution Agricole dans les 2 départements (Sarthe et Mayenne) qui constituaient l'ancienne province du Maine, apporte de précieuses informations sur cette culture. Il s'agit donc d'une période charnière où le sarrasin est cultivé dans 109 communes sarthoises, soit dans 26% des villages. R. PESCHE insiste sur les bienfaits du marnage, puis sur ceux du chaulage apparu plus tard, sur la disparition des landes et de la pratique de l'assolement sur 9 ans, avec en tête la culture du sarrasin, après écobuage de la parcelle, suivie pendant 2 ans de celle du seigle, puis de l'orge ou du froment puis de l'avoine, avec la reprise pendant les années suivantes des genêts, des ajoncs.

Toutes ces vertus avaient été remarquées de manière empirique depuis des siècles par les agriculteurs du monde entier et il est intéressant de constater que les techniciens de l'agriculture les redécouvrent et les préconisent partout dans le Monde, tout au moins dans les pays qui avaient vu disparaître sa culture : tête d'assolement, culture pour l'engrais vert, culture dérobée.

L'intérêt pour le sarrasin est tel que des banques ont été créées dans différents pays du Monde pour collecter et préserver toutes ses 2500 variétés recensées à ce jour : à Tsukuba (Japon), à Lljublijana (Slovénie), à Prague (Tchéquie - 1993) (1).

Plusieurs équipes de chercheurs travaillent aussi sur cette plante à travers le Monde, entre autres : - En France, l'équipe « Biodiversité cultivée et Recherche participative » de l'I.N.R.A. de Rennes-Le Rheu coordonne un projet « Sarrasin de pays » soutenu par la Fondation de France pour rassembler tous les acteurs autour de la relocalisation de la production de sarrasin en France et offrir des produits de qualité.

- En Suisse, où la culture du sarrasin a pratiquement disparu, un projet sarrasin est mené par l'Ecole Polytechnique Fédérale de Zurich « qui a fondé le World Food System Center qui se consacre à la recherche sur la disponibilité, la stabilité et l'utilisation de la nourriture ainsi que sur l'accès à cette dernière », en association avec le Fonds Coop suisse pour le développement durable.

- au Canada, l'entreprise Grain Saint-Laurent étudie la possibilité de semer des variétés adaptées les unes au nord, les autres au sud du Québec avec un cycle végétatif raccourci à 8 semaines de manière à avoir 2 récoltes dans l'été.

- En Australie, les chercheurs du Hermon Slade Foundation de Port Macquarie travaillent sur le « Buckwheat Ideotype Project » qui rassemble 130 variétés de sarrasin provenant du Canada, du Japon, de Slovénie, de Tchéquie, de Hongrie, d'Autriche, de Russie, de Chine. Le but est de sélectionner des variétés à grosses graines avec un haut taux de protéines et un taux d'humidité constant, afin d'en faciliter la conservation.

La Chine produit 55% de la production mondiale. Il y est consommé depuis que l'homme y a développé l'agriculture.

Le Japon est en déficit de production par rapport aux besoins des consommateurs. Il en importe beaucoup de Chine, mais il cherche à en faire cultiver de meilleure qualité gustative dans différents pays (en Espagne [Cantabrie], en Australie [Tasmanie]).

Le sarrasin a essaimé en Eurasie, en Europe centrale, en Europe du Nord. Par la Turquie, il a gagné les pays balkaniques puis l'Europe occidentale pour finir bloqué dans les Finistères breton et galicien.

La Russie, le Kazakhstan, l'Ukraine, la Pologne sont les grands producteurs et exportateurs de l'Eurasie. Sa culture n'a jamais été interrompue depuis son introduction et sa consommation y est très importante, principalement sous forme de grains grillés puis bouillis, la « kasha », mais aussi de bouillie et de crêpes.

Dans la Tchécoslovaquie des années 1970, il était possible de trouver à acheter du sarrasin, tout comme du millet, vente inconnue en France à cette époque dans les magasins, mais sa consommation n'était absolument pas habituelle. Par contre, il revient depuis quelques années, porté par le mouvement anti-gluten et il est possible de le trouver dans toutes ses déclinaisons trouvées par l'industrie agro-alimentaire.

Anna MICHALOVA, de l'Institut de Recherches sur les plantes cultivées de Prague-Ruzyne, dans son article « Buckwheat in the Czech Republic and in Europe" (5) rappelle que le sarrasin était cultivé dès le XIIème siècle selon Magdalena BERANOVA [Zemedelstvi starych Slovanu – Academia Praha 1980], qu'il couvrait 2911 ha en 1920 mais 150/300 ha dans les années 1970-1990. Sa culture a repris ensuite : 900 ha en 2001, soit 0,036% de la surface cultivée ; 3000 ha en 2015, dont 1000 ha en bio. Une collection de 136 génotypes de sarrasins a débuté en 1993, surtout des sarrasins dits communs, les autres moins nombreux étant les sarrasins de Tartarie.

En Slovénie, le sarrasin a constitué une part fondamentale de l'alimentation à laquelle les Slovènes restent attachés, ce qui est démontré par leurs variétés de pains et de recettes au sarrasin, certaines classées au patrimoine slovène. Le plus ancien document écrit qui le mentionne date de 1426. En 1992, 483 ha étaient cultivés pour une production de 308 t ; en 2016 ce sont 3 127 cultivés pour une production de 2 899 t (6).

En Europe de l'Ouest, le sarrasin a été cultivé dans tous les pays, dans les zones aux terres moins fertiles, souvent dans des régions montagneuses, là où il est resté comme une culture relique lors du désintérêt progressif pour cette culture entre 1850 et 1950. C'est d'ailleurs dans ces mêmes zones que sa culture reprend :

- en Espagne :

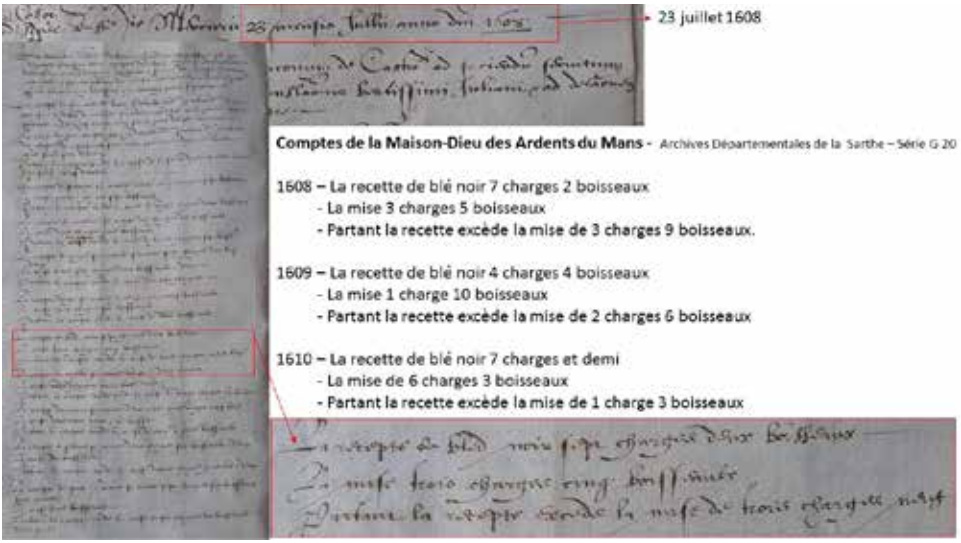
- Dans la Garrotxa, massif volcanique de l'ère tertiaire au sud des Pyrénées, la culture traditionnelle du sarrasin –le « fajol » - reprend, surfant sur la mode de la cuisine volcanique lancée par les restaurateurs locaux.

- La culture reprend aussi en Cantabrie avec un débouché spécifique vers le Japon où les consommateurs recherchent un sarrasin de bonne qualité bien que plus cher que celui provenant de Chine.

- en Suisse et en Italie du Nord (Tessin, Grisons, val Poschiavo, Valtellina), la culture du sarrasin s'est maintenue pour la fabrication des incontournables « pizzocheri » et des « chisciöls ».

- en France, le sarrasin est associé à la Bretagne et ses fameuses galettes. En réalité, le sarrasin a été cultivé dans toutes les régions de France. En témoignent les appelations régionales des variantes locales des galettes, que l'on peut déguster lors des Fêtes du Blé noir que l'on retrouve du nord au sud du pays et non pas exclusivement en Bretagne. Comme disent les Mayennais, très pointilleux sur le sujet, qui, d'ailleurs, n'ont jamais cessé de le cultiver depuis le début du XVème siècle : « Nous, nous avons eu le « carabin » bien avant les Bretons », comme en témoigne la première mention écrite trouvée

jusqu'à maintenant dans le Maine, celle du 15 juillet 1446 consignant que le seigneur de Bazougers a droit à une partie de la dîme des bleds noirs dits carabins, considéré comme gros bled. ». Les Mayennais peuvent ajouter qu'ils l'ont cultivé quelques 12 ans avant les Normands, puisque A.G. CHAUSSAT cite le cartulaire du chapitre cathédrale d'Avranches de 1460 où il est fait mention du sarrasin (7) . Il est vrai que Dominique MARGUERIE, palynologue, démontre avoir trouvé des pollens de sarrasin en Bretagne au second âge du fer dans la tourbière de Manéantoux dans le Morbihan, mais il n'est pas venu analyser les pollens dans le Maine!



R. PESCHE explique très bien le déclin de cette culture en Sarthe :

- Saint-Georges-le-Gaultier : *superficie argileuse, froide, compacte, propre seulement autrefois à la culture du seigle, de l'avoine et surtout du sarrasin qui y étaient cultivés il y a 25 ans dans la proportion de 25 parties pour 1 seulement en froment et en orge ; en voie d'amélioration au moyen de la marne que l'on prend à Sougé-le-Gannelon et surtout depuis l'introduction de l'usage de la chaux ainsi qu'il résulte de l'état actuel des ensemencés qui sont de 100 ha de froment, 300 ha en orge, 230 ha en méteil, 125 ha en seigle, 125 ha en avoine, 320 ha en sarrasin ou dans la proportion des 2/3 des 4 derniers, ce qui établit déjà une différence notable.*

Le produit des différents grains sur ce sol est de 4 ½ pour 1 en froment et en seigle, 5 ½ en orge, 6 ½ en avoine, 12 en sarrasin.

- Saint-Denis d'Orques : *sol argileux, argilo-siliceux, mouillant, médiocrement productif. L'agriculture de Saint-Denis d'Orques est néanmoins l'une de celles qui a fait le plus de progrès depuis quelques années, grâce à l'usage de la chaux qui y a été introduit :*

des landes improductives se défrichent, ses vastes étangs se dessèchent et une grande étendue de terrain qui était improductive donnera bientôt de nombreux produits ; les céréales qui ne produisaient que 2 ½ à 3 pour 1 et dont la culture était bornée au seigle et au sarrasin, donnent actuellement de 6 à 7 et quelques terres privilégiées jusqu'à 10 et 11 au moyen de la chaux dont on fait un usage abondant. Elles y sont cultivées dans la proportion de 400 hectares en froment, de 190 à 200 en méteil, autant en seigle et autant en orge, 60 ha en avoine, 60 ha en sarrasin qui donne 15 pour 1, 65 à 70 en pommes de terre donnant 38 à 39, 5 ha en betteraves, 8 en lin produisant 1 600 kg de filasse et 13 en chanvre qui en donne 2 500kg.

- Saint-Léonard des Bois : *sol maigre, aride et peu productif dont la culture est fort pénible. On n'y recueillait autrefois que du seigle et du carabin (sarrasin). Une amélioration sensible résulte de sa culture actuelle qui consiste en 100 ha de froment, 120 ha de seigle, 200 ha de méteil, 200 ha d'orge, 210 ha d'avoine, 300 ha de sarrasin, 32 ha de pommes de terre, 65 ha de prairies artificielles en trèfle, 16 ha en chanvre, le lin y était cultivé autrefois.*

Le Bulletin de la Société d'Agriculture, Sciences et Arts de la Sarthe arrête de parler du sarrasin en 1840, ce qui corrobore les observations de R. PESCHE.

En France, 700 000 ha étaient cultivés au XIXème siècle. En 1961, 45 200 ha produisaient 55 660 t avec un rendement de 12 qx/ha. En 1980, il n'y avait plus que 4000 ha cultivés pour une production de 6 900 t et un rendement de 14 qx/ha. La culture a ensuite repris pour atteindre en 2013 un superficie de 44 500 ha pour une production de 154 800 qx/ha avec un rendement de 35 qx/ha. La reprise s'effectue dans toutes les régions françaises de production traditionnelle de sarrasin, la plupart du temps en bio ou en agriculture raisonnée pour une transformation en farine à la ferme et une vente locale.

C'est en Bretagne que la culture du sarrasin était restée la plus importante de France avec 370 000 ha en 1900 et seulement 300 ha en 1980. La culture a repris avec une certaine importance à l'initiative d'agriculteurs et de meuniers qui se sont constitués en 1987 en l'Association Blé Noir Tradition Bretagne basée à Ploërmel dans le Morbihan (8). Un cahier des charges très strict qui en assure la qualité et la traçabilité à toutes les étapes, de la semence à la farine, a été établi pour les 1 400 agriculteurs, les 3 coopératives de stockage et séchage, les 9 meuniers. Seule la variété « La Harpe » qui a obtenu l'Indication Géographique Protégée en 2010 peut être cultivée.

Pour autant cette production (3000 t en moyenne sur 3300 ha dont 15% en bio) et celle des agriculteurs bretons hors cette association ne couvrent que pour 25% les 12000 t consommées rien qu'en Bretagne, qui doit en importer de tous les pays grands producteurs.

Une filière sarrasin 100% Normandie vient de se créer, associant des agriculteurs, le Moulin d'Alençon (meules de pierre) et le fabricant « La Galette d'Alençon » ; ensemble ils veulent reprendre cette culture traditionnelle autrefois dans leur région et la valoriser sur place (9).

En Sarthe, en 2009, 36 agriculteurs cultivent 109 ha de sarrasin. En 2015, 2016, 2017 la surface en culture principale passe de 112 ha, à 183 ha, puis à 358 ha ; en culture dérobée, elle passe de 113 ha, à 114 ha, puis à 335 ha. Au total, en 3 ans, la culture du sarrasin a progressé de 468 ha (10). Les 693 ha cultivés en 2016 correspondent aux surfaces cultivées dans deux des communes citées plus haut, il y a presque 200 ans.

En Côte d'Or, à Montbard, l'Atelier Sarrasin, créé en 2016, produit des biscuits avec du sarrasin qui provient de Lithuanie, en attendant que la production prévue localement donne ses premières récoltes.

Au XVIIème siècle, il a atteint l'Amérique du Nord, qui connaîtra, elle aussi, une chute spectaculaire de la production avant une reprise conséquente :

- les Hollandais l'introduisent dans la région de l'Hudson aux Etats-Unis d'où il se diffuse dans le nord-est en le centre nord. De 400 000 ha en 1918 sa culture décline à 8 000 ha en 1965 pour une production de 9 500 t. Sa reprise date des années 1975, en raison de son utilisation dans les céréales du petit-déjeuner et de la demande du Japon. En 2016, elle compte 71 907 ha pour une production de 75 241 t (6).

- les Manceaux et les Bretons l'introduisent au Canada, pays qui en est devenu un grand producteur, consommateur et exportateur. De 60 000 ha en 1930, sa culture s'est réduite en 1961 à 23 269 ha pour une production de 26 496 t, puis en 1993 à 9 400 ha pour une production de 7500 t pour ensuite reprendre de l'importance (6).

En Amérique du Sud, sa culture a été développée au Brésil par des immigrants d'Europe centrale au début du XXème siècle, pour une consommation personnelle, mais une culture de dimension industrielle s'est développée parallèlement pour l'exportation. En 1961, il y avait 450 ha pour une production de 500 t ; en 2016, la surface a atteint 48 239 ha pour une production de 62 872 t (6).

Au Chili, les agronomes ont tenté de le cultiver pour le fourrage, sans succès, puis pour en extraire l'huile, sans succès, mais un sac de sarrasin chez un agriculteur testeur a attiré l'attention du compagnon russe de Sandra RAMIREZ qui lui a expliqué que cette graine était excellente à consommer. Cette jeune femme, installée à La Union, dans le sud du Chili, seule de son pays, s'est lancée dans la culture et la transformation du sarrasin, achetant une décortiqueuse en Chine, ainsi qu'un moulin, afin que sa farine ne soit pas contaminée par la farine de blé contenant du gluten. Elle vend sa production de farine et ses oreillers de cosses de sarrasin à Valdivia et à Santiago à des consommateurs avertis. Elle prévoit de faire de la bière de sarrasin et d'installer des ruches pour obtenir du miel de sarrasin (11) .

En Afrique de l'Est et centrale (Ethiopie, République Démocratique du Congo, Ouganda, Zimbabwe, Afrique du Sud, Ile de la Réunion, et surtout Tanzanie [20 619 ha, 21 039 T, 10 qx/ha en 2016 (6)]), la culture du sarrasin s'est développée depuis fort longtemps comme culture vivrière et même médicinale, puisque ses feuilles étaient mâchées ou qu'elles étaient prises en infusion pour faire tomber la fièvre. Il a probablement été introduit depuis l'Inde où on consomme non seulement ses graines mais aussi ses feuilles cuisinées à la manière des épinards.

En Australie, sa culture a été introduite il y a une trentaine d'années pour profiter de l'avantage d'être dans l'hémisphère sud pour fournir du sarrasin quand les réserves annuelles viennent à s'épuiser dans l'hémisphère nord, là où se trouvent la majorité des consommateurs. L'Australie fournit 1/3 des importations de sarrasin au Japon.

Le sarrasin dans l'alimentation humaine :

La consommation du sarrasin par l'homme est la première utilisation de cette plante.

I) Les produits solides :

A) Les graines :

C'est principalement en Russie (kasha), en Ukraine (grietchka), en Pologne (kasza gryczana), en Slovénie(kaša), qu'on le consomme traditionnellement ainsi en faisant bouillir les graines, soit naturelles soit après les avoir grillées. La « kasha » s'étend actuellement au Monde entier selon la manière dont le consommateur veut manger le sarrasin.

B) La farine :

Comme la farine de sarrasin rançit rapidement, il fallait la moudre au fur et à mesure des besoins.

Les cultivateurs portaient le plus souvent leur production de sarrasin au moulin, mais de petits moulins manuels étaient vendus dans les familles. « Le sieur DUNIAL de Gesnes-le-Gandelin a présenté au Comice Agricole de 1838 un moulin à moudre les pommes de terre et le sarrasin. » écrit R. PESCHE. Cette pratique reprend : P.A. GIBERT, paysan-meunier en a installé un chez lui en 2016 à Montgaillard (Tarn) ; D.POIRIER à Epineux-le-Seguin (Mayenne), qui s'est lancé dans la culture du sarrasin en 2015, en

fait fabriquer un en 2017 par un artisan de Toulouse, de type Astrier, à meules en granit du Sidobre.

1) La bouillie

Elle est consommée partout dans le Monde. Elle est la mère des Russes selon le proverbe cité plus haut.

En France, c'était la manière la plus courante de la consommer : M. MORISSET la décrit en Mayenne : « Depuis des siècles on préparait une bouillie en faisant cuire dans un grand poêlon de cuivre la farine de sarrasin délayée avec du lait caillé; on plaçait le récipient pendant l'hiver au milieu de la pièce, pendant la belle saison à la porte et lorsque la pâte était un peu refroidie, on y creusait un trou qu'on remplissait de beurre et tous les gens de la maisonnée s'asseyaient autour de la bassine, chacun avec sa cuillère personnelle prenait un peu de bouillie qu'il trempait dans le beurre. » (12).

Il est peu probable que cette manière de déguster le sarrasin attire les nouveaux consommateurs.

- En Slovénie, elle est le plat national. C'est l' « Ajdovi žganci » servi avec du ragoût, de la choucroute et des saucisses (13) .

2) Le pain

Malgré sa mauvaise réputation, on en a fait partout, surtout en période de disette quand les farines de seigle et de blé venaient à manquer, ou lorsqu'on était trop pauvre pour acheter les farines nobles :

- Lors de la famine de 1546, l'évêque du Mans témoigne que « la pluspart du peuple était contraint de sustenter sa vie de pain fait de gland cuit dans la braise ou de bled sarrazin. » Il en emporta au Roi Henri II auprès duquel il était allé demander de l'aide, afin de lui prouver à quelle mauvaise nourriture les gens étaient réduits (14).

- Thomas HUE, marquis de Miromesnil, Intendant de la généralité de Tours pour l'année 1698, écrit dans son rapport: « on y recueille du seigle, des avoines et du blé breton, qu'on nomme ordinairement blé de sarrasin ou carabin, dont on fait du pain fort noir et rude qui sert de nourriture aux laboureurs (15).

- En 1698, Le Clerc du Flécheray, avocat fiscal à Laval, écrit en 1698 que les boulangers faisaient du pain de sarrasin selon le règlement des boulangers de Laval de 1697. Seuls les boulangers extérieurs à la ville avaient le droit de le fabriquer et ils devaient le vendre uniquement dans les rues (16) .

- En 1777, Antoine PARMENTIER, lors de ses essais sur la fabrication de pain de pommes de terre commente: « Si les différentes opérations que nous avons détaillées précédemment ont été exécutées ainsi qu'il a été prescrit, nous osons assurer, d'après des expériences répétées et variées que l'on obtiendra des pommes de terre seules un pain blanc parfaitement levé et très nourrissant sans aucun mélange de farine; il a, il est vrai, un petit goût herbacé et sauvage qui appartient à la pomme de terre mais, quel qu'il soit, il n'est pas à comparer au

désagrément du sarrasin, de l'avoine et de l'orge sous la forme de pain. » (17).

A. BOUTON décrit : « Dans le Bas-Maine, la fermière pétrissait dans la huche la farine de sarrasin avec du levain et de l'eau, puis mettait au four. Ce pain de sarrasin constituait la nourriture presque exclusive de certains paysans qui le mangeaient soit en soupe, soit avec un morceau de lard, soit sous forme de bouillies ou de grosses galettes qu'on entassait sur un trépied de bois dressé au bord de la table. » (3).

On le trouve actuellement dans les boulangeries à la mode qui font des pains réputés être plus complets et plus sains.Dans une boulangerie parisienne, en 2016, le « Vaillant », mélange de seigle et de sarrasin, est vendu 1,85 euros la miche de 200 g. Le kg de pain au sarrasin oscille entre 7 et 10 euros le kg, tandis que le kg de pain de blé est de 4 euros le kg.

- En Slovénie, les pains au sarrasin sont une tradition culinaire solidement ancrée. Le pain « pisan kruh » est composé de farine de sarrasin, de blé, de maïs (18).

<u>3) Le pâton de farine de sarrasin bouilli :</u>

Cette recette semble typiquement bretonne. Le « farz » est mis à cuire dans le pot-au-feu dans un sac spécial, afin qu'il ne se délite pas. Il est servi sur un plat, découpé en tranches, entouré de la viande et des légumes.

Il existe une variéte sucrée du « farz », mais elle est cuisinée plus rarement.

Cette préparation ne semble pas se diffuser hors de la Bretagne à l'heure actuelle.

- En Slovénie, la bouille de sarrasin entre dans le «Pohorski lonec », pot-au-feu composé de viande de porc, bœuf et mouton, de légumes auxquels on ajoute, lorsque c'est la saison, des champignons.

<u>4) Les nouilles</u>

On en trouve traditionnellement dans différentes régions du Monde.

- Au Japon, les nouilles « soba » sont apparues vers 1600 à l'époque Edo. Les Japonais en raffolent. Ils en mangent matin, midi et soir, chez eux, en les achetant aux marchands ambulants ou dans les restaurants spécialisés de « soba ».
- En Slovénie, on déguste les « ajdov parjek », ravioles de sarrasin farcies de bouillie de millet, de crème fraîche, de viande de porc hâchée, mais aussi les « fíruš », boulettes de sarrasin mélangé à du sang de porc frais, cuites dans la soupe, plat réalisé lors de l'abattage du cochon, tout autant que les «Ajdovi reganci », nouilles faites de farine de sarrasin.

- en Suisse et en Italie du Nord (Tessin, Grisons, val Poschiavo, Valtellina), la culture du sarrasin s'est maintenue pour la fabrication des incontournables « pizzocheri », pâtes de 10 cm de long x 1,5 cm de large et une épaisseur double de celle des tagliatelles, à base d'un mélange de farine de sarrasin (170 g) et de farine de blé (280g).

- En France, c'est en Savoie que l'on trouve les « crozets » faits uniquement de farine de sarrasin liée avec un œuf, coupés en carrés de 0,5 cm de côté.

Maintenant, une simple visite dans un magasin « bio », et même dans un supermarché standard, permet de découvrir des dizaines de variétés de nouilles de sarrasin de toutes les tailles et de toutes les formes possibles, que ce soit en France ou à l'étranger.

5) Les crêpes de sarrasin

Autre manière courante de les préparer traditionnellement à travers le Monde, mais c'est en France qu'elle est restée célèbre grâce aux galettes de Haute Bretagne [500 g de farine de sarrasin, 15 g de gros sel, eau] et aux crêpes de Basse Bretagne [500 g de farine de sarrasin + 100 g de farine de blé + 1,25 l de lait ou de mélange eau+lait + 1 œuf + 1 cuillère à soupe de gros sel].

La galette bretonne est devenue un emblème international de la gastronomie non seulement bretonne, mais, par extension, française. Les premières crêperies sont apparues en 1920 en Bretagne; en 2016, il y en a 4000 en France et de nombreuses autres sur tous les continents :

il y en a même une à Tartu en Estonie. Mais la galette se vend aussi en commerce ambulant et dans les magasins, provenant soit d'usines, soit d'ateliers artisanaux.

La galette bretonne est essentiellement consommée salée, mais il devient à la mode de la manger sucrée, de préférence avec du miel de sarrasin.

Chaque région de France avait sa galette de sarrasin qui toutes contiennent des ingrédients différents qui s'ajoutent au sarrasin: la galette normande [200 g de farine de sarrasin + 130 g de farine de blé + 60 cl de lait + 15 cl de crème fraîche + 1 œuf + sel fin], le tourtou en Corrèze – Limousin [300 g de farine de sarrasin + 100 g de farine de blé + 42 g de levure + 1 pincée de sel + eau tiède], le palissou dans le Tarn [farine de sarrasin + farine de blé + levain + sel fin + eau : préparation étalée sur 4 jours au cours desquels on ajoutait chaque jour un peu plus des ingrédients], le bourriol dans le Cantal [150 g de farine de sarrasin + 150 g de farine de blé + 12 g de levure fraîche + 25 cl de lait + 1 cuillère à café de sucre + une pincée de sel fin].

- En Italie, dans la Valtellina, à Tirano, on fait le chisciöl, crêpes composé de 150 g de farine de blé pour 300 g de farine de sarrasin, d'un verre à liqueur de grappa. On coupe en dés 350 g du fromage local mi-gras de Valtellina et on les mélange à la pâte. Ce fromage fond lorsqu'on fait cuire la crêpe qui se mange avec une salade de chicorée.

- En Slovénie, on fait différentes galettes de sarrasin : l'«Ajdov potáncelj » est fourrée de fromage caillée et elle est servie en accompagnement de viandes ou de légumes lors des fêtes. L'« Ajdov krapec » est faite de fines couches de pâte au sarrasin et est garnie de fromage frais et de crème aigre.

- En Russie, ce sont les célèbres blinis que l'on mange avec du beurre fondu et de la crème fraîche.

6) La panure

En Slovénie, on utilise la farine de sarrasin pour paner les truites, avant de les frire dans le saindoux ou l'huile, car cela donne une saveur supplémentaire à la chair, différente de

la panure à la farine de blé ou de maïs : « Soška postrv v ajdovi ali koruzni moki ».

7) Les gâteaux de sarrasin

Les Slovènes ont été particulièrement inventifs dans ce domaine :

- « Bizeljski ajdov kolač » : pâte de sarrasin non levée farcie au fromage caillé.

- « Ubrnjenik » : ce sont des petites boulettes faites de farine de sarrasin, de maïs ou de blé grillée, arrosée de lait salé bouillant auquel on ajoute de la crème sucrée et du beurre.

- «Móhovt Ajdnek » : gâteau à base de sarrasin, de noix broyées, de miel et de cannelle.

L'idée de faire des gâteaux à partir du sarrasin s'est développée dans l'esprit des Français qui, jusque récemment, ne l'envisageaient que dans des recettes salées.

C) Les produits issus de l'imagination et des techniques de l'industrie agro-alimentaire:

Si le sarrasin continue à être consommé sous les formes décrites plus haut, il est présenté maintenant sous différentes formes :

- selon sa granulométrie : crème, semoule, boulgour, flocon, pétale;

- sous forme de galettes industrielles ou artisanales vendues sous vide;

- sous forme de nouilles aux formes très diverses et au pourcentage de sarrasin variable;

- de biscottes et autres pains secs, seul ou associé à la farine d'autres plantes;
- de biscuits salés aux différentes saveurs (tomate, fromage, olive, etc.) pour l'apéritif ;

- de biscuits sucrés.

II - Les produits liquides :

1) La bière :

Les Asiatiques (Himalaya, Chine) ont eu et ont une production domestique de bière de sarrasin.

En Europe et aux U.S.A. des artisans brasseurs produisent une bière au sarrasin, puisque l'orge reste indispensable pour le brassage :

- En Belgique, la Brasserie Silenrieux produit la « Sara », bière de haute fermentation, depuis 1991. - En France, la Brasserie Lancelot produit la Telenn Du depuis 1993. Cette bière à 4,5% est fabriquée à base d'une infusion de sarrasin variété I.G.P. Harpe Noire biologique, car on ne malte pas le sarrasin, et d'orge maltée, dans la proportion de 20 à 30 % de sarrasin pour 80 à 70% d'orge. 960 kg de sarrasin sont utilisés par mois pour faire 80 hl de bière par semaine.

-En Espagne, c'est dans la Garroxta, à Batet de la Serra, qu'une bière au sarrasin est brassée , la Keks, créée par le cuisinier Pep NOGUE (malt d'orge, sarrasin, flocons d'avoine, houblon, levure ; 3,5% Alcool/Volume). Elle a un grand succès au Japon.

- Aux Etats-Unis, la Brasserie Dogfish Head produit la Tweason' Ale, sucrée avec un peu de miel de sarrasin.

- Au Canada, la Brasserie de la Nouvelle-France fabrique la «Messagère» depuis 2001; la Brasserie Glutenberg en fabrique depuis 2011.

- Viviane BUGE, chercheuse de l'Institut de Chimie de l'Université de Brasilia a étudié la possibilité de développer des bières artisanales de sarrasin dans le Nord-Ouest du Brésil.

- Sandra RAMIREZ, au Chili, envisage de produire de la bière au sarrasin.

2) Le thé :

Le thé de sarrasin se boit traditionnellement au Japon. Il fait une timide entrée dans le monde occidental.

3) Le whisky :

Le whisky de sarrasin « Eddu » [« Ed » : céréale – « Du » : noir, en breton] est né de l'intiative d'un couple d'enseignants de Plomelin dans le Morbihan, Anne-Marie et Guy LE LAY, qui ont eu l'idée de valoriser le sarrasin sous cette forme. Ce délicieux breuvage n'aurait normalement pas dû porter le nom de whisky puisque le sarrasin est une polygonacée et non une céréale, mais, en l'occurrence, il y a été assimilé par l'usage alimentaire qui en est fait. Après une période d'essais d'une dizaine d'années, la production a été lancée en 1999. Elle est basée sur la variété La Harpe, cultivée en bio, moulue et maltée, distillée et vieillie pendant 5 ans en fûts de chêne qui ont contenu du cognac. En 2016, la production a atteint 130 OOO bouteilles par an. La Distillerie des Menhirs est la seule au Monde à faire du whisky de sarrasin.

4) Le lait :

Le lait de sarrasin est issu de l'industrie agro-alimentaire des laits de plantes à destination du marché des végétariens et des végétaliens, des personnes allergiques au gluten ou de celles voulant manger un aliment sain cultivé en agriculture biologique.

III Le sarrasin consommé par l'intermédiaire des produits de l'élevage ou de la chasse:

Dès son introduction en France, le sarrasin a été utilisé pour l'alimentation animale, soit en graines, soit comme fourrage frais ou sec, soit en fleurs.

1) L'élevage fermier :

Le sarrasin était utilisé sous ses deux formes dans l'alimentation des animaux de la ferme (tiges fraîches ou sèches et graines), mais les agriculteurs se sont vite aperçus que des rations trop importantes et trop régulières de cette plante provoquaient une forme d'empoisonnement pouvant entraîner la mort de l'animal, observation empirique relatée dans les ouvrages d'agronomie dès le XVIème siècle sous le nom de fagopyrisme.

Il semble que cet effet n'existait pas quand les tiges étaient sèches: Raymond POUY, de Cadeilhan-Trachère (Hautes Pyrénées), créateur et animateur de la Fête du Sarrasin dans cette commune, témoigne: « La paille (ou « jambes », en patois bigourdan) était distribuée aux vaches qui donnaient du lait très riche, très coloré et odorant. »

L'utilisation des grains de sarrasin dans l'alimentation des porcs est attesté dans le Maine par un acte de Château-Gontier du 14 janvier 1499 : « 30 sols valeur de 2 boisseaux de blé noir ayant servi à engraisser une truie. » (Archives Mayenne H, supp.236 (3)).

Buckwheat for feeding domestic animals

Bleds noirs
sarrasin /
Buckwheat

Truie / sow

Document from january 15th 1599 about feeding a sow with buckwheat.
Archives Départementales de la Mayenne cote I H.1.5

Postcard from the beginning of XXth century with Le Mans' hens feeded with buckwheat.

Gwenaël LHUISSIER in 2017. From 2001, he is re-creating the Le Mans' hen breed, feeded with buckwheat.
La Ferme de la Poule Noire
Le Modot - 72290
Mézières-sur-Ponthouin

Par contre, dans certaines régions, elles ont fait réellement partie de l'alimentation des volailles, c'était même la spécificité de l'engraissement des fameux chapons et poulardes du Mans. Elle est citée dès 1555 par Belon, médecin naturaliste du Roi. Elle est servie sur la table des Rois, puis des Empereurs de France, ainsi que sur celle des riches, cuisinée par les plus grands cuisiniers, tels Brillat-Savarin, Grimod de la Reynière. Différents auteurs célèbres du XVIème au XIXème siècle les citent : Scarron, La Fontaine, Racine, la Comtesse de Ségur, Alexandre DUMAS dans son « Grand Dictionnaire de Cuisine. »

Cet élevage se poursuit au cours du XIXème siècle. R. PESCHE précise que, en 1842, dans deux communes limitrophes du Mans, on continue de cultiver le sarrasin pour le nourrissage des volailles :

« - La Quinte: on y cultive un peu de sarrasin seulement pour la nourriture des volailles, lequel manque 3 à 4 années sur 5.

- Rouillon: on produit un peu de sarrasin dont on vend une partie pour la nourriture des volailles. »

La réputation de la poularde du Mans a donné lieu à une carte postale intitulée : « SARTHE – Marchande de volailles » présentant deux belles poules avec la légende suivante : « Qui veut de mes poules, j'aurez d'z'œufs ; a ponnant ben toutes les deux. »

La race de la poularde du Mans a disparu avant la Seconde Guerre Mondiale. Gwenaël LHUISSIER a entrepris de la reconstituer à partir de 2001 et ses premières poulardes viennent d'être remises entre les mains des plus grands cuisiniers de la Sarthe. Gwenaël LHUISSIER a repris ce qui fait la spécificité de la saveur de la poularde du Mans: la nourriture au sarrasin, bien que cette graine coûte 5 à 6 fois le prix du blé.

Il utilise 1,2 T de sarrasin bio par an pour 200 volailles à l'année. Les poussins sont démarrés aux miettes, puis jusqu'à 3 mois, ils reçoivent progressivement de l'orge, du blé, des pois protéagineux. Ils reçoivent ensuite 50% de leur ration en sarrasin jusqu'à leur abattage à l'âge de 5 - 6 mois.

Adresse: Gwenaël LHUISSIER - Association pour la Promotion et la Valorisation de la Poule du Mans - Le Modot - 72290 Mézières-sur-Ponthouin

Au Canada, J. DUVAL, de l'Université Mac Gill, a travaillé en 1995 sur l'utilisation du sarrasin dans l'alimentation animale (19) . Dans ses conclusions, il écrit que : « Le sarrasin comme grain de provendes présente des avantages et des désavantages:

- Ses protéines sont de qualité, entre autres à cause de sa richesse en lysine. On obtient une bonne complémentarité des protéines lorsqu'on mélange le sarrasin à des céréales (blé surtout), ce qui permet de diminuer les suppléments;

- Son contenu en fibres est élevé, encore plus dans le cas du sarrasin de Tartarie;

- Il a un faible taux de digestibilité en comparaison des céréales. Pour les monogastriques, on peut considérer des taux de digestibilité pour la matière sèche, l'énergie et les protéines d'environ 65%-70% en comparaison à environ 80-85% pour les céréales;

- Il y a danger de fagopyrisme lorsque le sarrasin est donné en trop grande quantité et que les animaux sont exposés à la lumière;

- L'appétence est particulièrement faible dans le cas du sarrasin de Tartarie, mais nettement meilleure pour le sarrasin commun et encore mieux pour les variétés de sarrasin sélectionnées (Mancan, Tempest, Tokyo).

- Le sarrasin peut être inclus le plus avantageusement en remplacement des autres grains dans les rations dans des proportions qui peuvent variés jusqu`à 50 à 60% pour la plupart des animaux domestiques.

Les chaumes et les pailles de sarrasin laissés après la récolte ne sont pas de bons fourrages. Les jeunes plantules poussant des grains tombés sont même toxiques, surtout pour les moutons. »

En Australie, au Chili, des chercheurs ont tenté de développer la culture du sarrasin pour l'alimentation du bétail. L'expérience développée dans la région de Valdivia au Chili dans les années 2000 s'est arrêtée très rapidement. En Australie, elle se poursuit : le sarrasin est mélangé au maïs, à l'orge, à l'avoine, pour les rations des bovins, ovins, porcins. Il est aussi donné aux volailles.

2) Le sarrasin, plante méllifère :

Le sarrasin a besoin des abeilles pour que les fleurs soient fécondées.

Le miel fabriqué à partir du nectar du sarrasin est foncé et concentre beaucoup de ses propriétés médicinales.

S'il en a été produit dans toutes les zones de culture du sarrasin, R. PESCHE fait valoir que «dans le Maine, le commerce du miel et de la cire était important, surtout celle de la cire du Bas-Maine où les abeilles butinent sur le sarrasin, la plus estimée, comme étant plus facile à blanchir. » Le Mans est d'ailleurs devenu le centre de la blanchisserie de la cire à partir de 1600, sa qualité étant telle qu'elle a emporté le marché de la Cour royale. En 1789, il y avait 3 grandes et 2 petites blanchisseries de cire fabriquant jusqu'à 306 000 livres de cire, cierges et bougies dont les 2/3 étaient exportés dans toutes les Cours de l'Europe et jusque dans les Indes. Cette industrie a disparu au début du XIXème siècle et il est évident qu'elle ne sera jamais recréée. Si toutefois cette industrie devrait réapparaître, ce serait la cire issue du colza qui serait utilisée puisqu'elle est blanche et que en raison des superficies cultivées, la production de cire est considérablement plus importante que la production de cire de sarrasin.

La tradition de l'apiculture sur la fleur du sarrasin a perduré et perdure en 2017 en Mayenne (autrefois le Bas-Maine) sur des petites parcelles de quelques hectares, cultivées pour la plupart en agriculture biologique.

En 2007, le nombre d'apiculteurs français vendant du miel de sarrasin reste encore limité (seuls 2 sont inscrits sur le site des producteurs de miel à la source), ne serait-

ce que parce que la superficie ensemencée en sarrasin est elle-même encore très limitée. 10 ans plus tard, avec le développement des superficies en sarrasin, le nombre d'apiculteurs vendant officiellement du miel de sarrasin s'est multiplié par 10, mais cette production restant marginale pour bien des apiculteurs, le nombre de producteurs est sous-estimé. Les apiculteurs se consacrant au miel de sarrasin ne se limitent pas à la seule Bretagne ; ils se trouvent partout en France où la culture traditionnelle du sarrasin reprend.

Commun autrefois dans toutes les zones de culture du sarrasin et consommé sans se préoccuper de ses vertus particulières, le miel de sarrasin fait maintenant l'objet d'études scientifiques approfondies dans différents pays, en même temps que sa production se développe partout dans le Monde : ALEKSEYEVA et BUREYKO, 2000, en Russie; Franck-Emmanuel LEPRETRE en Bretagne avec des essais en 2013-2015 sur 6 sites avec 8 variétés différentes : les sarrasins à grains argentés de Bretagne : la Harpe, le Petit Gris ; le Spacinska, le groupe Kora et Lileja à floraison précoce ; le Drollet français; le Billy canadien (20).

3) Le sarrasin pour la chasse :

Les Fédérations départementales de chasseurs proposent aux exploitants intéressés par la chasse la culture intermédiaire en plaine de plantes couvrantes pour favoriser le maintien et le développement de la faune et pour contrebalancer les effets de l'agriculture intensive sur de grandes parcelles sans aucun abri. Elles offrent un sac de 25 kg de sarrasin pour un hectare de culture par exploitant afin de favoriser cette pratique. Les Miradors de Sologne vendent le sac de 25 kg de sarrasin 77,25 euros en 2017.

Le Groupe Technique National Agrifaune a mené des essais en 2010 chez M. BARABE à Vassouville en Seine Maritime de différents mélanges. Le mélange sarrasin (16 kg – 66%), phacélie variété Lila (7 kg – 27%), moutarde brune (2 kg) semé en août offre un couvert de 100% en novembre. Il attire non seulement les insectes, mais aussi le petit gibier, les sangliers, les cerfs et les chevreuils.

En Mayenne, une partie de la production du sarrasin s'est maintenue traditionnellement pour agrainer les faisans. En Angleterre, le sarrasin sert aussi pour nourrir les faisans et le gros gibier.

Conclusion

Les chercheurs scientifiques du Monde entier travaillent à sélectionner des variétés de sarrasin, afin d'élargir ses zones de culture. L'alimentation de l'Homme est leur première préoccupation. Mais ils s'intéressent aussi à sa valorisation dans l'alimentation du bétail et à ses bénéfices agronomiques. Parallèlement, son intérêt pharmaceutique, nutritionnel et industriel les préoccupent aussi : extraction de ses principes actifs pour fabriquer différents médicaments (Rutine), des produits de compléments alimentaires, des produits de beauté pour la peau et les cheveux ; utilisation des cosses de sarrasin pour le paillage, pour remplir des oreillers, extraction des principes tinctoriaux.

Il est intéressant de noter que sa culture chez de modestes agriculteurs peut améliorer considérablement leurs revenus : He Zenbao, un fermier qui vit à Pingtou, dans le Shanxi en Chine, a amélioré de moitié ses revenus en produisant 10 t de farine (valeur : 3000 US $) à partir des 15 t de sarrasin qu'il a produit (valeur : 2 000 US $) (21). A 8 512 km de là, à Epineux-le-Seguin en Mayenne, France, D. POIRIER vient d'acheter un moulin pour faire sa farine de sarrasin à la ferme et ainsi mieux valoriser financièrement sa production de sarrasin. A 12 132 km d'Epineux-le-Seguin, S. RAMIREZ a fait de même à La Union au Chili.

Le sarrasin est cultivé en agriculture conventionnelle, en agriculture raisonnée, en agriculture biologique. Des filières « sarrasin » avec des cahiers des charges stricts se mettent en place dans différents pays, associant le producteur, le stockeur, le meunier et le commerçant, soit spontanément à l'initiative d'individus qui se regroupent, soit dans le cadre de programmes officiels de développement. En France, elles s'attachent à une culture biologique associée à une mouture à la meule de pierre, valeurs promotionnelles pour la vente. Mais la majeure partie de la production mondiale est issue de l'agriculture conventionnelle dans des exploitations indépendantes.

Ses exigences agronomiques limitées, son adaptabilité à tous les continents - des plaines aux hautes altitudes – dans la mesure où les conditions climatiques correspondent à ses exigences, l'absence de traitements et d'engrais chimiques, l'amélioration de ses qualités nutritives et de ses rendements par la sélection, permettraient de développer de manière importante la culture du sarrasin, afin d'assurer l'alimentation d'une population mondiale croissante dans le cadre d'une agriculture durable, sachant qu'au Brésil, le climat et la qualité des terres permet jusqu'à 3 récoltes de sarrasin par an sur la même parcelle. Le boom mondial actuel de cette culture va dans ce sens.

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Workshop Summary by Oliver Douglas and Rando Värnik

SUSTAINABILITY: PAST AND FUTURE

The sustainability session, combined with fibre plants, gave rise to a wide range of papers and productive discussion. Like the traditional Estonian welcome of the rye-bread loaf, the addition of extra substance was both surprising and timely. It brought new strands of thought and showed how relevant sustainability is to our work. The workshop began a series of conversations that we intend to pick up again in digital dialogues, engendering a new forum to aid participants in moving ideas forward and in learning from one another.

REPOSITORIES OF CULTURE AND BIODIVERSITY

Our initial discussions centred on animals and plants. We spoke of seed bank projects, conservatory orchards, rare breed programmes, and the ways in which we seek to safeguard precious genetic resources. Museum professionals can engage with these important areas of work and, as expert custodians, bring their curatorial and collections management approaches to bear.

MUSEUMS AS MEETING POINTS

Museums were characterised as places of trust and as spaces for mediated and participatory activity, as articulated through museum practices including collecting and recording, interpreting and engaging, teaching and learning, researching and collaborating. The advantage of museums as meeting spaces, with or without the requisite exchange of traditional loaves, perhaps seems obvious. As much as they can be sites of control that offer guidance they can host bottom-up trajectories of expertise. Indeed, these sites can bridge divides, connect communities, bring generations together, encourage dialogue between private enthusiasts and professional curators and do so in ways that are both tangible and intangible.

INTANGIBLE CULTURAL HERITAGE

We were mindful of the tacit knowledge inherent in agricultural practices. This raised difficult but important questions about those nations (my own included) that are not yet signatories to the 2003 UNESCO convention on intangible cultural heritage. The shortcomings of its five domains were discussed in terms of the interconnected character of our cultural lives. We cannot easily separate

agriculture from environment any more than we can discuss food in isolation from craft, oral tradition, or performance. However, whilst we felt holistic approaches would be beneficial and help with open participation, the consensus remains that we should embrace the idea of intangible culture and be broad-based enough to examine foodstuffs from field to fork but also in folklore.

HISTORIES OF TECHNOLOGY

The workshop also raised the legacy of AIMA's technology-focussed founders and the continuing value of comparative approaches to agricultural tools. Much work in this important area remains, particularly in linking our myriad datasets, dictionaries, and intellectual traditions, and in continuing to grow our understanding of how technologies change, persist, die-out, or are revived. The workshop emphasised the urgency with which we must chart the connections between ancient or outmoded adaptations and the challenges of producing food in healthier, sustainable, and environmentally-sensitive ways. This again means participation and knowledge transfer, engagement with other sectors, and recording and collecting in targeted and unbiased ways.

Dr Oliver Douglas

President of AIMA
University of Reading, Museum of English Rural Life, Assistant Curator
o.a.douglas@reading.ac.uk

Dr Ollie Douglas is an active collections manager with specialist expertise in the history of collecting, he has worked for over 15 years as a museum professional and has extensive experience of liaising with different audience groups. In 2002-2003, whilst working at the Pitt Rivers Museum, University of Oxford, he co-developed a project entitled Objects Talk, which showcased community-derived selections of material culture and delivered community commentaries on those collections. During his time at The MERL he has been responsible for numerous temporary exhibitions, using these as means of trialling new ways to enable academic scholars to disseminate research. His research interests include the history of British folk museology and its intersections with anthropology and archaeology, the history of collections, and the activities of homeland ethnographers, folklorists, and rural collectors of the late-nineteenth and early-twentieth centuries. In the past he has helped to organize academic workshops in the History Faculty at the University of Oxford and a diverse programme of public-focused seminars and symposia at the University of Reading. He is currently managing several externally-funded and collections-focused projects. He is President of the International Association of Agricultural Museums and sits on the committees of The Folklore Society and the Rural Museums Network.

Rando Värnik

Professor
Estonian University of Life Sciences
The Institute of Economics and Social Sciences
Department of Agrarian Economics and Marketing, Rural Economics and Management
rando.varnik@emu.ee

R&D related managerial and administrative work

2018–... Member of the board of bioeconomy development centre

2017–... Leader of the cooperative long-term knowledge transfer program

2014–... Member of the science and developent commitee of Estonian University of Life Sciences

2012–... Steering commitee member of the rural development plan 2014 -2020

2010–... President of the Estonian Association of Agricultural Economists

2007–... Representer of Estonian Association of Agricultural Economists in EAAE

2005–... Member of the University Council

2005–... Member of the Board of Estonian Agricultural Science Program

Workshop 2

Museum Education and Research

Workshop Leads:
Isabel Hughes, Museum of English Rural Life, UK
Mare Kõiva, Estonian Literary Museum, Estonia

Participants in Tartu 2017 workshop

Julia Hanulewicz

Curator Education and Publications Department
Museum of Agriculture and Agricultural-Food Industry,
Szreniawa, Poland
J. Hanulewicz@muzeum-szreniawa.pl;
muzeum@muzeum-szreniawa.pl

Małgorzata Pietrza

Senior Curator. Manager, Education and Publications Department Museum of Agriculture and Agricultural-Food Industry,
Szreniawa, Poland
m.pietrzak@muzeum-szreniawa.pl;
muzeum@muzeum-szreniawa.pl

THE ROLE OF LIVESTOCK IN THE ACTIVITIES OF THE NATIONAL MUSEUM OF AGRICULTURE AND AGRICULTURAL FOOD INDUSTRY IN SZRENIAWA

The Museum is located on the edge of Wielkopolska National Park, in the 19th-century landowner's estate, only 10km from a large urban agglomeration - the city of Poznań. For over 50 years of its operation it has gathered approximately 25,000 artefacts - most of them related to the agricultural technology. Some are presented at permanent exhibitions in 13 modern pavilions, in a restored palace and in historic farm buildings located within the former manor courtyard: in barns joined by a granary, a cowshed, a distillery and also - outdoors. Within 23 hectares of the Museum there is an orchard of old varieties of fruit trees, a herb garden and a field where cultivation of traditional garden and field crops is demonstrated. The field also provides food for our animals. For a number of years, the Museum has been breeding and keeping native breeds of farm animals in danger of disappearing. Animals and working agricultural machinery have become our hallmark.

Native breeds of farm animals in danger of disappearing, bred at the Museum for over 12 years, play an important role in our educational activities. It should be noted that not all animals kept at the Museum participate in shows or workshops. For obvious reasons mature, adult males, i.e. bulls, boars, stallions, rams or bucks and females in advanced pregnancy are not used in educational activities and do not have a direct contact with visitors. Those "less safe" animals can be seen on the paddocks.

The individual features also play an important role in the animals' fitness to take part in educational activities. At the moment the Museum keeps five oxen and a cow, including four animals representing native breeds (Polish Red Cattle, Polish White-backed Cattle). Seven horses - three of them represent native breeds (two Polish primitive horses, and one Polish cold-blooded horse). During events organised in cooperation with the Polish Association of Keepers and Friends of Workhorses and prof. Ewald Sasimowski Equestrian Producers of Organic Food, whose office is located at the Museum, we promote the use of horses in organic farming, forestry or agritourism.

Our Museum plays an important role as a host of meetings and demonstrations of modern agricultural machinery driven by workhorses. We also have six goats (including one Carpathian goat - representing a native breed), 15 sheep (including three Polish mountain sheep, one Wielkopolska sheep and seven Polish Heath sheep), four pigs of Złotnicka White and Spotted breed, 57 hens, five gees, two turkeys, three pheasants, 55 pigeons, five guinea fowls and a donkey. Animals kept at the Museum play various roles - from performance of general works around the facilities to taking part in interactive shows for our visitors. The Department of Animal Husbandry and Crop Production trains the animals and takes care of them.

Animals add an educationally valuable element of interactivity to our permanent exhibitions on "Breeding of farm animals and veterinary medicine". The collection of prepared farm animals, as well as utility equipment used in the work they perform and in their care (harnesses, tools and supplies for the care and feeding of animals, veterinary equipment), thanks to replicas, is presented on live animals during lessons, shows and events.

Nothing can replace the direct contact and a connection established with the animals during shows organised at the Museum. The smell, movement, sound and often the possibility to touch an animal under the supervision of a carer causes the cognitive process to be enriched with multisensorial experience. Shows, workshops, etc. with animals are particularly popular among the children who want to come back to the Museum to see their favourite beast - not necessarily at work. Depending on agricultural season, animals play different roles in reconstruction of traditional farm work, such as ploughing with an ox-drawn cart, harrowing or harvesting with a horse-drawn mower.

Such shows allow our visitors to quickly and easily learn about the importance of breeding animals and the basic agricultural tools and equipment used at farms of the past. Direct observation and even participation in a show is the best way to learn. The most popular forms of educational activities involving animals are the shows organised during thematic monthly outdoor events - every year there are approximately 10 of them. Events, which have become a fixture in the Museum calendar are: "Easter and Christmas Fair", "Whitsun Festival", "Future's past" (harvest), "Autumn at home and on the field. Retro show". Animals play an important role during presentations of the old customs and rituals of the Polish countryside. During the "Whitsun Festival" we organise a parade of decorated oxen, which attracts a lot of visitors every year.

We get a lot of visitors from schools and kindergartens during educational shows dedicated to organised groups of children and youth, such as "Autumn in a village" or "Easter or Christmas customs and ceremonies". During the latter a nativity scene is presented, where our donkey plays an important role - her name is Tosia. By the way, this name was picked during a competition organised by the Museum. Animals also participate in events dedicated to adults - the so-called "Weekend meetings" or in "Museum adventure" - a programme dedicated to families. From time to time we show shearing of sheep or shoeing of horses. Our Museum offers a large number of lessons for a variety of age groups - a lot of them include activities involving animals. For example:

- "At the farm"
- "The wide road. A history of village transport"

- “A day at the forge”
- “Traditional use of farm animals in agricultural work”
- “From the village table – butter and cheese”
- “From the hoe to the plough. Field work in the Middle Ages”
- “Feeding farm animals now and in the past”
- “Farm animals”

To give an example - during shows involving a cow (“From the village table – butter and cheese”), we tell the visitors about the impact a mug of milk has on their mental and physical development. We show how to milk a cow and make butter and cheese in a traditional way - using a hand butter making machine. We have a full-size artificial cow that is used to teach our visitors how to milk it.

During other shows (“At the farm”) our youngest visitors can watch or take an active part in feeding of poultry and caring for goats or sheep. The leading topic of “The wide road. A history of village transport” presents the history of means of transportation in Poland - from manual handling (hay and straw handling sticks and carriers), water and road transport – carts including special vehicles (e.g. fire engine, vehicles used to transport animas). An additional attraction of this lesson is a horse-drawn carriage ride.

Live farm animals kept at the Museum make our educational offer richer and more diverse. Therefore, they attract a great interest of visitors, especially families with children.

Margita Poriete
Leader of Folklore Commission
Riga Latvian Society
spridisaskola@inbox.lv

USING NATURE MATERIALS IN WORKSHOPS FOR CHILDREN IN LATVIA

The Riga Latvian Society (RLS) is a voluntary, independent public cultural organization, founded in 1868 - 50 years before the Latvian state. The Riga Latvian Society (RLS) is the oldest officially founded Latvian organization. It has had an outstanding role in the history of the Latvian nation, and thanks to it several notable Latvian culture and science institutions and museums that still work nowadays have been established.

Riga Latvian Society's activities were resumed in 1989; there are many commissions (historical name) for groups of different interests.

This report includes experience stories about the project of the Riga Latvian Society for the acquisition of traditional culture for pupils at Spriditis' School - creative workshops for city festivals and Latvian museum pedagogical programs and for projects promoting rural lifestyle in the most suitable environment - country houses.

Photo 1 *A bird of linen yarn*

This report shares our experience in organizing creative workshops using attractive methods, showing the link between the inquiring workshops and the use of natural materials, emphasizing the relevance of natural materials to annual customs.

I will introduce you with the things made in creative workshops and the ways they are created. In conclusion - the benefits, difficulties and contradictions, conclusions.

In 2001, the RLS Folklore Commission created a project called Spriditis' School, the author of the idea was an ethno-choreographer Ernests Spīčs. (Sprīdītis is a hero of a Latvian fairy-tale). Spriditis' School is a cycle of events for pupils to learn folklore. Pupils, accompanied by class teachers, once a month, come to the RLS House to participate in the cognitive, music, practical or artistic activities, and at the end all are involved in traditional dance learning in the Big Hall.

Over the years, practical training had to look for new options; we developed new forms of events outside the RLS as well. In 2010, in the summer season, a project during the Riga Festival "Hay puppet workshops in Vermane Garden" (it is a public park) was set up. And such projects continued for several years.

The project involved a professional team of people, public organizations and volunteers – not only puppet makers, but also dolls' clothing sewers (linen cloth), smoothers with coal irons, ethnographers and material researchers – agronomists, biologists – (they are in seer roles), actors and directors, music composers, choirs, traditional musicians, game masters, teachers and social workers – all creating a common, heartfelt family work for purpose – natural materials' puppet theatre and creative workshops.

Photo 2 *Hay puppet theatre*

The special puppet play scenario was written and created for the show. Natural images were played by people, but people – by hay dolls. Some episodes were played by professional puppet actors, but in other episodes visitors with self-made dolls were engaged.

The most vivid example – in 2013 –"Medieval scenes in Speķupe shores" (in the Middle Ages, Speķupe river was at the RLS building site). Overall, this project involved about 50 people, where everyone had its own task.

Important natural material workshop process is the cognitive part. According to the theme and the material, different experts are working:

– agronomist – characterizes materials from the scientific point of view and usability nowadays; mycologist (mushrooms' specialist) in Mushroom theatre – explains the performance content from the scientific point of view; entomologist – tells about Mushroom insects; ornithologist states the made birds' species made by participants in workshop, ethnographer Indra Čekstere presents natural materials, folklore and everyday life in ancient times.

Photo 3 *Hay figurines*

Workshops use materials related to the season:

tree leaves, dried flowers – in autumn; straw – in autumn and winter, tree bark – in autumn and winter; wool – in winter; linen – in winter and spring; tree branches – in spring; flowers from meadows – in summer; potatoes and vegetables – in summer and autumn; acorns – in summer and autumn; hay – in summer and autumn.

The things made in workshops are not always modelled on ethnographic specimens, but perhaps in former times they might have been similarly made, because we use traditional techniques. We imagine the life 200 years ago – what kind of materials would be available, children's skills and abilities in the craft industry.

Natural material workshop preparing techniques are traditional – wrapping, moistening with water, twisting, strengthening – feeling how the material changes in human hands. In the workshops visitors are acquainted with the natural material properties and smell.

In 2014 the The Ethnographic Open-Air Museum of Latvia organized a Contemporary Crafts Festival, where we participated – and we were among the 10 best Latvian craftsmen, who have their own creative workshops.

We have participated with our programs in various cultural centres, city and countryside holidays, museums, institutions related to agriculture.

Photo 4 *Potatoes theatre*

Forms of activities are different, because not everywhere can implement such a broad programme. Creative workshop can be formed by one person or up to 50 people – they should work with visitors during events.

For large mass gatherings, in preparation of natural material dolls, not only masters participate, but also trained volunteers-assistants: students from the University of Latvia, floral design studios; pupils from art and handicraft schools; pupils from Sigulda Youth Centre and senior citizens.

Event visitors often ask where the Riga Latvian Society has a meadow, from which the materials come.

We have created a project in the countryside where different natural materials are available.

"Linden blossom workshops" in my country house "Kalna Vaizuļi" were supported by Sigulda Municipality Council. Visitors together with the masters, made puppets from hay decorated with linden blossoms; we collected linden blossoms for tea, made linden blossom tea on the fire, sang songs, played games – realizing Summer time folklore programme.

Photo 5 *Linden blossom workshop*

About 100 people felt family atmosphere, taking part in groups consisting of about 25 people.

We will organize "Meadow flower workshops" this summer, and of course – we will prepare fresh Midsummer hay dolls.

Photo 6 *Meadow flowers workshop*

Natural materials, workshops in natural environment – at the farm visitors have a chance:

- to enjoy a friendly, family-like environment;
- to feel and understand the materials which are not as homogeneous as prefabricated materials;
- to acquire skills and abilities;
- to understand traditional way of life;
- to feel the nature and natural processes;
- to unleash children's ability and imagination.

Frequently encountered difficulties in natural material workshops:

- belief in the society that natural material is cheap;
- non-compliance with the established project definitions in Latvia;
- visitors' lack of skills to work with natural materials (younger children do not have strong hands and they need adult help);
- allergy and littering in rooms (we work only in open air);
- the things made of nature material is not usable for long time.

Conclusions:

- Workshops of natural materials are a good way for children's aesthetic and artistic upbringing, environmental education, learning of traditional culture, as well as a way of self-expression.
- Hay Puppet Theatre together with workshops create a special adventure with visitors' participation. But the fragrant dolls made of the hay and nature materials, for a long time remind of this wonderful adventure in rural atmosphere.
- Maybe in future the use of natural materials for non-agricultural purposes will be one of the ways helping the rural environment to develop.

Yves Segers

Professor at Interfaculty Centre for Agrarian History,
University of Leuven, Belgium
yves.segers@icag.kuleuven.be

FOOD AND WAR IN BELGIUM: RURAL AND CULINARY HERITAGE OF THE GREAT WAR

Belgium, and the western part of Flanders, was from 1914 to 1918 a major battle theatre. A million soldiers from more than 50 countries were wounded, missing or killed in action here. Dozens of cities and villages were destroyed; their population on the run. In the other regions of the country, the German occupier controlled daily life, food production and distribution. A great deal of the requisitioned food, cattle and horses was sent to the front zone and to German cities. As the war dragged on, the food situation in Belgium became problematic. The National Food and Relief Committee tried to increase the import of basic foodstuffs as much as possible. But this could not prevent the Belgians from hunger. Prices skyrocketed; cookery booklets advised housewives to deal with the wartime kitchen.

In 2014-2018 the Flemish government stimulates museums, heritage and tourism organisations to commemorate the Great War, to convey a message of peace and to safeguard its heritage. For the Interfaculty Centre for Agrarian History (University of Leuven) this was/is a good occasion to launch new research initiatives and to distribute these insights via a travelling exhibition, workshops about the wartime kitchen, visits to reconstructed farms. This is

an ongoing project that brings together a wide range of partners (museums, farmers' organisations, government departments, researchers...).

Anne Jorunn Frøyen
Curator NMF, Jaermuseet, Norway
ajf@jaermuseet.no

PROJECT DEADLY DREAMS. THE CULTURAL HISTORY OF POISON

Deadly Dreams, the Cultural History of Poison is a joint project between researchers from museums and universities in Norway, USA, Germany and France. The project will study hormone-disrupting chemicals and how they, in past and present are invading the web of life. Jaermuseet is attending Deadly Dreams with a Ph.D. Project that will study the historical use of pesticides and herbicides in Norwegian agriculture.

The study starts in the 1930s, at a time when farmers in Norway were dependent on man labour. The decades after WW2 introduced big changes, and afterwards herbicides and pesticides were used systematically and routinely. In the following decades one became aware of the health effects of these chemicals. The knowledge about the chemicals changed, and so did the practice and attitudes towards them. Still, there were disagreement amongst farmers, politicians and others about what chemicals farmers should use and how to use them. What kind of weed or insect, fungi or nematode that was defined as harmful, also changed during these years. Knowledge and attitudes are constantly transformed, and perceptions differ. It makes this field an interesting case to study, and to pass on to visitors.

Hopefully, the project is going to be an example of how collaboration with external researchers may be valuable to museums, and how museums may contribute to changes for sustainable futures.

Andreea Panait

Curator
The National Museum of Agriculture, Romania
mna_slobozia@yahoo.com

WORKSHOPS FOR ROMANIAN PEASANT CALENDAR

The National Museum of Agriculture offers not only a safe and relaxing space and place but also high quality services and a one of a kind and wonderful experience for visitors. Gradually, the museum has transformed from a typical classical exhibition space, mostly technical, to a museum for everybody, for all people, we could say that it has come closer to people, by transmitting the knowledge it preserves in an easy and effortless way, in a more accessible approach. For this transformation, our museum has created an ambitious and challenging project for promoting, presenting, and people participating workshops which are meant not only to attract possible participants and viewers but also help developing in them new personal and inner skills.

Our museum has approached and looked at workshops as a form of education to keep and preserve our country's folk traditions, to successfully fulfill the relationship between the Formal- Non-formal- Informal Educations, based on objective criteria. The specific objectives are organized into skills, spiritual capacities, abilities, habits and knowledge[1]. The mean of all this was to create a certain type of consciousness: moral, ethical and aesthetical. By organizing these workshops we have taken into consideration the development of certain

[1] Venera Cojocariu, Necula Barabas, Victor Mitocaru, Museal Pedagogy, published by The Ministry of Culture, The Training and Preparation Centre of Culture Institution Personnel , Bucharest, 2002, page 38;

types of psychical functions: perception, representation, mindfulness, thinking, memory, imagination, and language.[2]

The Romanian peasant calendar, which is a calendar having mostly and highly agrarian features is focused on the most important points of peasants' life, the right and favourable moments to realize and fulfil their agricultural activities during the astronomical year, but also in the breeding of their domestic animals, and in the unfolding and developing of the evolutionary process sowing and harvesting of the human useful plants. For the traditional village inhabitants, time had a work and profit related meaning. It was intimately connected to their life events and happenings (activities and work concern preoccupations) or to the nature's yearly and seasonal transformations (the plants, animals and birds biorhythm). These events and happening are the birth names of the seasonal and annual holidays, but also their main occupations, such as agriculture and grazing, from which two types of calendar have come into being: one is agrarian and the other is pastoral. The other rural activities (fruit growing, viticulture, beekeeping, fishing etc.) have overlapped, generally speaking, on precise time related activities which were fixed and established by the ones working the fields and those who had as an occupation animal breeding.

By observing and carefully noticing, man has organized a time division of his important agrarian moments, relating them to solstices and equinoxes which later have been overlapped by Christian holidays.

At the beginning of the 20th century Romanian people used two calendars: the official one recognized by the state and church, and another one, we could say unofficial, transmitted from ancient times, through folklore.

The calendar of the Romanian peasant organizes all man's activities on seasons, weeks, days and even day moments. There are specific time moments for sowing and harvesting, for the herds gathering and splitting them off, for match-making and engagement, for witch crafting and spells, and these moments would be marked by the celebrations of different Christian and pre-Christian mythical representations. The year and the year sub-multiples (the season, the month, the week, the day) are in the calendar of the Romanian peasant, personifications, characters that come into being, grow old, die and return to life again once the new year has arrived. Among these, saints who have come to the sanctitude, Santa Claus at the winter solstice and The Old Dokia, or as Romanians say "Baba Dochia", at the spring equinox, are celebrated in special fast way. They represent the God Year whom by death and rebirth, continuously renews the calendar year of 365/366 days[3].

[2] Idem, page 57;
[3] Ion Ghinoiu, The Villages Treasures, The Folk Calendar, The Romanian Academy Publishing House, Bucharest, Romania, 2005,pages 5-6;

The calendar of the Romanian peasant is annually distributed, having permanently fixed and flexible holidays in its structure. Some of the permanently fixed holidays are "Dragobetele"- which is known as a Love Day, rather like Valentine's Day, "Martisorul", The Forty Martyrs of Sebaste or the Holy Forty, Saint Andrew's Day, Christmas, The New Year's Day. The flexible holidays which are calculated based on the phases of the moon and on the spring equinox. These are: The Easter holidays and "Caloianul/Paparudele"- which are rain rituals. There is also a moon and solar calendar which was adapted to the nowadays calendar of holidays celebrations. The way of establishing the date of the holidays celebration is still based on solstices and equinoxes.

The folk Agrarian Calendar has as a beginning date the day of March 9th. It is a calendar based on unwritten laws, orally transmitted from generation to generation. The times of the holidays are organized in such ways that they could connect annual elements of major weather changes to magical elements. The holiday is celebrated using certain characters having agrarian features and dating from the Pre-Christian times. The prerogatives of these characters have been borrowed from the Saints of the Christian: restrictions, leniencies, eating specific types of food and practicing certain rituals and activities.

During the celebration of these holidays, there are specific rituals and customs to be performed, customs related to fertility. The activity or by case, the inactivity accustomed to these holidays, is the subject of the workshops held at The National Museum of Agriculture.

Our workshops are created mainly for school aged children, and secondly for pre-school children, and mature people who would like to attend them.

The workshops held in of our museum are eight in number and contain important moments from the annual period of The Romanian Peasant Calendar. We present these workshops in their chronological order, based on their celebration dates as follows:

1. "Dragobete" –on February 24th;

2. "Martisorul"- on March 1st;

3. "Macinici" holiday, the feast of the 40 Martyrs of Sebastes- on March 9th;

4. The Egg Painting and Decoration- which takes place in the period right before Easter, the Holiday of the Resurrection of Jesus Christ;

5."Caloianul/Paparudele''- celebrated at three weeks after the Resurrection of Jesus Christ;

6. The Ritual of Wheat Ears Braiding- right after the wheat harvesting;

7. The Old Andrew- The Winter Beginner or The Head of Winter- on November 30th, on Saint Andrew's Day;

8. The Winter Holidays- between Christmas and New Year's Day.

The beauty of each workshop is represented by the novelty of the information and actions taking place all through the developing of these. The workshops are held according to a program as follows:

1. "Dragobetele"

This is a workshop held for the celebration of the day of 24th February, which is a love celebration. In the folk calendar, this holiday, is associated to the forest bird song and mating. It is a mythical representation identified with old Cupid- the god of love in old Roman mythology. "Dragobetele" is also called The Head of Spring – The Spring beginning. People celebrate this holiday through "hora"- Romanian round dances, which are considered meeting opportunities and also an occasion for boys and girls to come to know each other and eventually become couples, time for walks in the woods, to make shrieks, yell and whistle in a specific and traditional way: "<<Dragobetele>> kisses the girls!" and using a certain type of language by saying sweet and beautiful words to each other.

After explaining and informing the participants, they are invited to a "hora" and then they write and sent each other love notes.

2. The Celebration of "Martisor"

This workshop is held to celebrate the first day of spring, the beginning of the year by the old Roman calendar in the month dedicated to Mars, the god of war. Specific for this holiday is creating a lanyard using white and red threads symbolizing winter and summer. In other old times parents used to tie a little gold or silver coin on this lanyard and give it to their children. Nowadays people tie different figurines symbolizing spring and good fortune such as snowdrops, ladybugs, chimney sweepers, four-lobed clover leaves, and so on and give these little gifts especially to women.

The participants at this workshop learn not only to create the special red-white lanyard, but also to realize the figurines which are to be tied on it, and they get to find out new and interesting information regarding each symbol meaning. The materials used for the creation of these "martisoare" are seeds, plants, sea shells, textiles, and paper.

3. The Celebration of "Macinici" or The Feast of the 40 Martyrs of Sebastes

This workshop is held to celebrate the ninth day of March, when, according to the Christian-Orthodox calendar is the feast of the 40 Martyrs of Sebastes. This is the beginning date of the Agrarian Calendar, the moment when the plough starts its agrarian journey and work into the waiting soil for the first time in the year. It is also the beginning moment of orchard works that need to be done to prepare the fruit trees to bear their fruits: people cut the dry and unwanted branches and twigs, pruning them, they light up fires to prevent possible losses caused by weathering. For this day specially, people bake a certain type of number eight shaped bread made of dough (flour, water, salt), which are then boiled in a mixture of water, sugar and ground nuts, or they make, from leaven dough, shaped of bread: Eight or letter "S" forms, which are then baked into the oven and served with honey and ground nuts. These types of foods are given to others for the souls of the dead ones. The rest of the boiled dish is used by the women of the house to oil the trunks of the trees, in order for the latter ones to bear more and healthier fruits. Some of the number eight shaped pieces of bread are tied to the branches of the trees for the same purpose- to bear more and healthier fruits. This is, as well, the time of the year when the ground is beaten up with wooden hammers called "maiuri" to take the heat out and to let the cold get inside, they build fires and bonfires especially in the orchards and people jump over them, as a sign of purification.[4]

The participants at this workshop learn to make these specific types of dough, boil the "macinici" dish and tasting different baked or prepared dishes. After that, they learn to shaped small eight dough and hung in the fruit trees, to beat up the ground with the "mai"- wooden hammers and to jump over lit fires.

4. Painting and Decorating the Easter Eggs

The activity of this workshop depends on the date the Easter holiday. It is held at one week before the Resurrection of Christ, when people used to paint and decorate the eggs (the eggs are drawn with wax with special pin and painted with different colours).

The participants learn the traditional egg decorating method using traditional tools called pins, to draw different special signs with agrarian meanings (the rake, the plough, the pitchfork etc.), with hot wax, and then they paint them using different colours.

5. "Caloianul; Paparudele"- Rain Rituals

"Caloianul" celebration is a rain invoking ritual which takes place in the agricultural crops growing period or when there is draught. It is usually put into practice at a distance of three weeks after the Resurrection of Christ. The origin of this celebration

[4] This information comes from The National Museum of the Roumanian Peasant

is to be found in the cult for an ancient god of nature who dies and revives, a god such as Adonis, for the ancient Greeks. "Caloian" was the name of the envoy sent to the divinity to ask for the releasing the water under the shape of rain or by case to ask for the stopping of heavy rain. The sending of the envoy was preceded by an initiation: doll made of clay and decorated with colourful broken egg shells and flowers was performed a burial ritual (with a coffin, a priest, specific songs, mourner and alms). The ritual tasks of the burial convoy, the roles of the priest, the psalm reader and the mourners, are played by children. After this initiation, the clay doll was thrown in a deserted well, buried in a wheat field or let to float on a streaming river. After that all children will go to the house of one of the participants, for the alms of Caloian, where they will eat fried eggs with polenta, pie, doughnuts, and they will drink lemonade. Children play and splash each other with water, in this sense there could be seen common points and resemblances with another rain ritual called "Paparude"[5].

"Paparudele" are girls dressed in leaves and sprouts, with head crowns made of leaves, they dance round dances called "hora" practicing and doing special gestures to call the rain, walking from house to house where people would throw or splash them with water.

The participants at this ritual learn the custom of clay modelling a "caloian", embellishing it, they also learn ritual songs, the custom and tradition of the burial, the play roles and respectively the songs, the dressing up and dance of "paparude".

6. The Ritual of Wheat Ears Braiding

This workshop is held between July and August, at the wheat harvesting ends. Using the last wheat ears people used to create ritual braiding items having different shapes and names: ostrich, feather, head crown, cross/mace and God's beard, which would be used for the blessing of the following seeding.

The participants at this workshop learn the type and method of braiding wheat ears and receive pieces of information about the meaning of these ritual braiding items.[6]

7. The Old Andrew - The Head of Winter

This workshop is held to celebrate the day of November 30th, when Romanians celebrate Saint Andrew the Apostle's Day who marks the beginning of winter. This celebration is dedicated to a divinity, which had in its features the cult of

[5] "Caloianul- A Pray for the Thirst of the Ground", Magdalena Petre-Filip, Ialomiţa Newspaper, 2016;

[6] "The Tradition of Reaping Crown Braiding at The National Museum of Agriculture", Fănica GHERGHE, The Sixteenth Congress of the International Association of Agricultural Museums, Bread and wine – Historical, ethnological, technological and cultural parallels, The National Museum of Agricultural, Star Tipp Publishing House, Slobozia, Romania, 2011, page 90;

death, the communication with spirits of the ancestors, being shown as wolves or ghosts. During Saint Andrew's night people used to practice different types of rituals meant to protect people, animals, and households. On this day it was beneficial to communicate with the spirits from the other side. To reject the evil spirits, people would tie garlic braided ropes at their windows. On the previous night, of this celebration, girls used to make a type of salted dough in which they would stick a clove of garlic. If the clove of garlic

8. Winter Holidays

This workshop is organized around the winter holidays season, in December, when the participants create "sorcove"- which consists of a stick or twig decorated with artificial flowers of different colours, wherewith children slightly hit on back their parents or acquaintances in the morning of New Year, wishing them, in special verses, health and luck.

The participants are also welcomed with specific traditional songs such as The Star, Carols, and Wishing Well Song called- "uratura". Carol singing is an ancient tradition of announcing through specific songs the Birth of Jesus Christ. "Uratura"- the Wishing Well song is a type of yelled song- "strigatura" which usually contains, agrarian messages, and they are usually performed starting with December 31st, New Year's Eve; it's also called "Plugusorul"/"little plough" – because at the beginning was done by bringing a plough in the yard belonging to the one to whom they used to sing for, and cross a furrow as a sign of good wish and luck. "Sorcova"- is the custom consisting of a wishing well song, sang in the morning of the first day of the year by children. The ones who used to go singing "Sorcova" would create this specific item made from a twig or little branch embellished or adorned with colourful paper flowers or would use a blooming twig prepared on Saint Andrew's Day; besides these traditional specific wishing well songs and carols, people threw wheat seeds towards the host house, using and mimicking the act of hand seeding.

The participants at this workshop learn to create "sorcova" and the significance of the winter holidays. Our museum receives carol singers and wishing well singers every year, that are rewarded and welcomed by us, as custom asks, with nuts, knot-shaped bread, pretzels, cracknels and sweets.

We think that these permanent workshops may have a long term impact on our participants and visitors. This would be reflected on their skills and abilities, but also on some of their personality features such as creativity, personal interest, motivation, inspiration. The National Museum of Agriculture is part of the scientific museums category, but by adapting its activities to the needs our society has and it has redesigned itself to answer the thirst of knowledge about history and cultural identity.

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Elo Lutsepp

Head of the Centre of Rural Architecture
Estonian Open Air Museum
elo@evm.ee

As an architecture historian she is also member of ICOMOS CIAV. The Centre of Rural Architecture deals with Estonian vernacular architecture outside the museums. Keywords of their work are research and maintenance. Their duty is to consult and train house owners, specialists and officials, and conduct research in large scale.

PASSING ON TRADITIONAL KNOWLEDGE AND BUILDING SKILLS AT THE ESTONIAN OPEN AIR MUSEUM

In 2007, a programme for the research and maintenance of Estonian rural architecture was launched at the Estonian Open Air Museum. In 2012, the implementers of this programme formed a separate unit under the name of the Centre of Rural Architecture of the Estonian Open Air Museum. One of the most important spheres of our work is research on Estonian vernacular architecture and traditional building skills. We are interested not only in stand-alone buildings but also the traditional village landscape in its entirety, observing the changes that human activity or lack thereof has caused.

A considerable number of quite well preserved historic farm buildings have still encountered in rural areas all over Estonia and, the museum's mission would be to help bring them back into renewed active use. Therefore, starting from 2006, the museum has become more focused on preserving rural architecture in situ, as much as this is possible, rather than transferring numerous new sample buildings

to its own territory. This means that, besides research work, the open-air museum has acquired a new role to encourage home owners and consult them about restoring their historic buildings.

A significant development trend in today's extensive construction activity is the renewal of old houses. Many facilities, having stood derelict, are being converted into modern dwellings or summer homes. Therefore, people need more and more practical advice and good examples in refurbishing their old rural houses.

Photo 1 *Restoring granite walls*

Estonian Open Air Museum has organised different practical training courses on its own territory. At first they were mainly about building stone and wooden fences, but from 2008 onwards, the subjects of training have become more diverse – timberwork (renovation and building of log walls and different kind of

timber constructions), restoration of windows and doors, traditional methods of finishing (plastering, painting, paint making, etc.), renovation of limestone and granite (natural stone) walls as well as roofing (constructing reed-thatched and wood shingle roofs). Within the variety of different courses, one can even learn how to dismantle and refurbish a traditional barn oven.

Photo 2 *Restoring old windows*

By now, the Estonian Open Air Museum has further extended its activities and aims to contribute to the preservation of historic and attractive environment beyond the territory of the museum, by organizing different specific courses in local areas.

In Estonia, the owners of rural built heritage are not entitled to any financial support for the maintenance of their buildings (except for the owners of historic monuments). We can offer them immaterial support by means of training courses and consultations. So, the primary aim of the training days is to show home owners how to execute simpler jobs in refurbishing their old houses on their own, as it is inherent in Estonians to do things with their own hands. At the same time, they are given detailed instructions on what they can demand of experienced masters, in case they choose to order some work from them.

We encourage house owners to use old methods and materials but also put to use new materials and technologies and combine old and new. We do not seek to preserve Estonian rural landscape by conservation, as if it were part of a

museum, but rather try to adapt old buildings to modern requirements (energy efficiency, new environmental requirements, etc.), so that their historic value would be preserved.

All the trainings, both theoretical and practical, are conducted by specialists in respective fields. In addition to practical knowledge, the house owners are provided with a wider ethnological and art-historical background. The majority of such training days take place on farmsteads, where the created values persist.

In 2008–2017, the Centre of Rural Architecture has organised proximately 110 practical training courses (with ca 2,200 participants) and 85 seminars (with more than 4,400 participants). Additionally, in co-operation with several partner organisations, plenty of similar events are carried out in different places every year.

Old Rural House Day organised twice a year is our most popular event. In 2012, a handbook for renovating an old rural house ("Vana maamaja"), edited by Joosep Metslang was published. This practical book deals with different aspects of renovation, starting from the concept and ending up with practical building. The handbook has enjoyed enormous success in Estonia (ca 8000 copies have been sold).

The next handbook Katuseraamat (All about Roofs, edited by Joosep Metslang) has been published at the end of August 2016.

The Centre of Rural Architecture has published in cooperation with the Harju County Museum, a brochure titled Väärtused vanas majas (Values in an Old Rural House, 2013). We have also made educational videos about building a wood shingle roof, Laastutalgud (Wood Shingle Bees, 2008), and restoring windows, Egon Kochi akende restaureerimine (Restoration of Egon Koch's Windows, 2013). Travelling exhibitions on various subjects under discussion are organized each year. Our biggest exhibition has been Estonian Rural Architecture. Constant and changing.

Besides the official home page of the museum, our main communication channels are the blog of the EOAM Centre of Rural Architecture, our own Facebook page as well as the constantly growing mailing list.

Our operation is not project-based anymore, and we work every day to expand our field of work.

In 2015, the Centre of Rural Architecture of the Estonian Open Air Museum was awarded an Europa Nostra Grand Prix in the category of Education, Training and Awareness Raising namely for the educational activities targeted at house owners.

The second field of the museum can, first of all, have an advisory role. Yet all activities related to offering any kind of advice or consultations require a preceding thorough research. Since 2012, a group of six persons has been working by the museum as a separate unit, being called the Centre of Rural Architecture at the Estonian Open Air Museum, providing a constantly operating and available counselling service.

It has been during the past five years that the Estonian Open Air Museum has succeeded in calling for greater cooperation and compiling a network of active vernacular builders (13 partners) who act on the basis of enthusiasm, in the form of non-governmental organisations (NGOs), and also as entrepreneurs.

In order to better organise our work, we launched a website www.maamaja.eu. The homepage enables the house owners to easily find a counsellor closest to their home. The list of recommended masters is constantly supplemented, as our network of counsellors is looking forward to close cooperation with responsible renovation entrepreneurs, in order to smooth the complicated and time-consuming process of restoring old buildings and to improve its quality for the house owners.

Photo 3 *Traditional paints 2012 in Rapla County*

The homepage also offers some relevant reading material: both instructive materials and entire books. But what is even more important – the page also assembles all the trainings and other related events organised by us and our partners in a joint calendar. In the future we will try to plan our trainings together

and make people aware of the initiatives in their own region. Time is too precious to be wasted behind the wheel.

For the owners of barn-dwellings as buildings unique to Estonia, the first counselling is free of charge; the costs are covered by the Centre of Rural Architecture of the Estonian Open Air Museum. However, besides the owners of barn-dwellings, the prices for counselling are rather reasonable also for the owners of other historic buildings. A small sum of money for counselling helps to avoid bigger expenses caused by inadequate knowledge and skills. Each counsellor has to be able to give recommendations about building materials, working methods, and solutions that would minimise the risk of further damage. In case people are interested, the counsellors of the network share the contacts of master builders, restorers, engineers, architects, and other experts.

In organizing extensive training programmes, the museum of vernacular architecture has grown far beyond its borders and reaches all over Estonia. Special courses in local areas are based on case studies, in which participants can learn by doing and thus contribute with their work to the preservation of particular structures. These trainings may be interesting and educational, yet people get more inspired by the idea that their work leaves a concrete mark and helps to protect rural heritage. It is namely the owner's protection that serves as the main basis for preserving our rural architectural heritage in situ.

Well maintained settlements and landscapes serve as a precondition for the balanced development of tourism, employment and, through this, also whole rural areas. This connects young people to their ancestors' homesteads and contributes to sustainable and environment-friendly way of life.

Workshop Summary by Isabel Hughes

The session demonstrated the variety topics that have been successfully developed into museum learning programmes. There were also common themes of interest to all rural life museums including making ceremonial and everyday objects from traditional and natural materials and demonstrating how animals have been used historically in farming, rural life and as part of traditional celebrations.

Rural life can also be a key part of national and international commemorations, such as those witnessed across Europe in relation to the First World War. These programmes often receive particular funds from governments and provide useful opportunities to highlight where agriculture and rural people have played a significant role in major historical events. Such projects can deliver new research as well as participation in learning activities and events.

Museum learning, it seems, is thriving among rural life museums but there are also stresses and strains as large-scale events which are very popular with both visitors and museum managers are very time consuming to plan and deliver.

Some museums are able to offer a more strategic view of exhibitions and programmes by establishing a particular philosophy to guide their choice of where to put their efforts and which audiences to address. Others are offering as many opportunities as they can to drive up visitor numbers and support from their local communities.

All the workshop members expressed a desire to keep in touch with one another and to share experiences and ideas, perhaps through online communication in the future.

Isabel Hughes

Associate Director & Head of Curatorial & Public Engagement
Museum of English Rural Life, England

i.m.hughes@reading.ac.uk

Isabel Hughes is an executive committee member of AIMA and is Head of Curatorial and Public Engagement at the Museum of English Rural Life at the University of Reading. She has worked as both a curator and museum learning specialist in a range of museums including the Livesey Museum, London Borough of Southwark, The Royal Armouries at the Tower of London and Hampshire Museums Service. Isabel Hughes also served as Head of Access and Learning for the South East Museums, Libraries and Archives Council, a grant giving strategic body and spent time as a freelance consultant supporting museums and historic sites in developing capital projects and learning and interpretation programmes.

Workshop 3

Conservation and Restoration. Digital Media in Museums

Workshop lead:
Kerry-Leigh Burchill, AIMA/ Director General of the Canada Agriculture and Food Museum

Paulina Kryg

Conservator
National Museum of Agriculture and Food Industry in Szreniawa, Poland
p.kryg@muzeum-szreniawa.pl

CULTURAL HERITAGE – RESEARCH INTO INNOVATIVE SOLUTIONS AND METHODS FOR HISTORIC WOOD CONSERVATION

This topic presented issues related to the conservation of exhibits meant for research in the project titled "Cultural Heritage – seeking state-of-the-art means and methods of historical wood conservation" carried out in collaboration with the University of Life Sciences in Poznań, Nicolas Copernicus University in Toruń, Museum of Archaeology in Poznań, Adam Mickiewicz University in Poznań, Poznań Park of Science and Technology of the UAM Foundation in Poznań, NanoBioMedical Centre in Poznań, A. Krupkowski Institute of Metallurgy and Materials Science in Krakow, Institute of Molecular Physics of the Polish Academy of Sciences in Poznań, and the Casimir the Great University in Bydgoszcz. The selected objects are exhibited in the open air and represent coniferous as well as deciduous species with fibre cells arranged as rings or spread out in the cross section, which allows a comprehensive analysis of the applicability of silicon organic compounds for the conservation of different historical wood types. The presentation moreover addressed the issues to be faced by project participants, such as the manner of application of the conservation agent or its impact on preserved painted elements.

Merlin Lumiste

Collection manager of documents and manuscripts
Estonian Agricultural Museum
merlin.lumiste@maaelumuuseumid.ee

DIGITIZATION AT ESTONIAN AGRICULTURAL MUSEUM

Estonian Agricultural Museum is central agricultural museum which collects objects related to agriculture and rural life in Estonia throughout history. In our museum's collections people can find horse, steam and engine powered machinery, tools, textiles, photographs, artwork, videos, films, music, documents and manuscripts. In the 21th century all of them need to take some kind of digital form as well.

Estonian Agricultural Museum has joined the Museum Public Portal (Eesti Muuseumide Infosüsteem, MuIS in Estonian), national web-based information system which for museums works as collection management software and for public it is free database of collections of Estonian museums.

Illustration 1 *Museum Public Portal. Diary of farmer's daily work 1950–1953 from collection of Estonian Agricultural Museum*

According to the regulation from 2013 issued by the Minister of Culture every joined museum is obliged to add to the portal at least one digital image of every object in their collections within one year after obtaining it. This is the focus of our museum's digitization activities. As of today, approximately 74% of objects belonging to artefact, manuscripts and documents, artwork, textile, photograph and film collections have at least one digital image uploaded into MuIS.

Digitizing is done by corresponding collection managers while adding full descriptions of objects (location in depository, dimensions, condition, physical and content description and contextual keywords) into the Museum Public Portal, that is why currently obtained objects and those which need conservation gets priority in digitizing.

During digitizing our collection managers consider digitizing guidelines for flat objects as much as possible. These are meant for making master copies and is issued by Conservation and Digitization Centre Kanut and Ministry of Culture. Although original scans we make are in high resolution, they are not master copies meant for archiving for multiple reasons. Firstly, our priority is to make at least one digital image for MuIS which image requirements are little less demanding. Secondly, our museum has only one server for storing scanned or born-digital files and storing master copies in the same place as derivative copy wouldn't fulfil their task. Thirdly, scanning and photographing process doesn't meet the full requirements of creating master copies stated in aforementioned guidelines. Our museum doesn't have proper conditions for that. So, we have decided to only make one high resolution copy for everyday use including making derivative copies for database. Let's call them semi-master copies.

Flatbed scanners and digital single-lens reflex cameras are used for digitizing. Objects of document-and-manuscript, artwork and photographic collections up to size A4 are scanned with scanner Epson Perfection V500 Photo and up to size A3 with scanner Epson Expression 10000XL. Larger sizes paper, glass-based and three-dimensional objects are photographed.

Our museum uses for batch scanning, file conversion and file naming graphic viewer IrfanView which is free for non-commercial and educational uses, including museums.

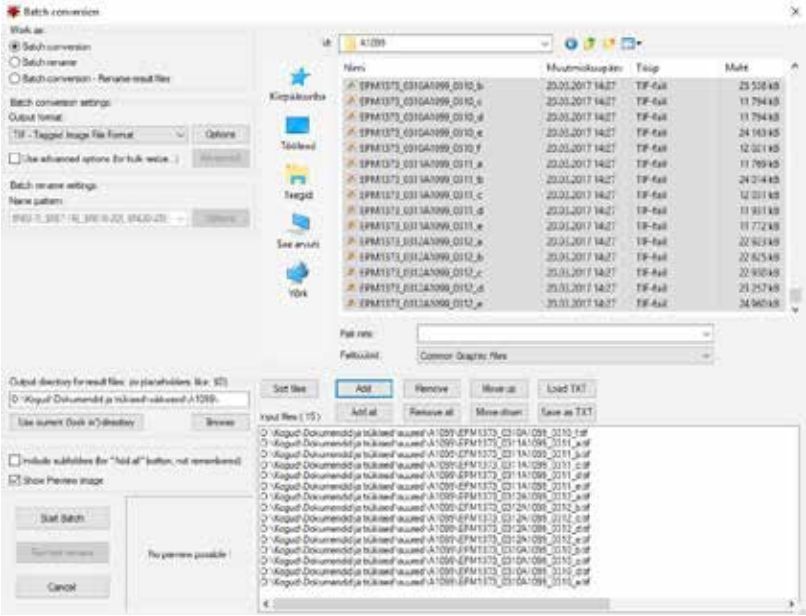

Illustration 2

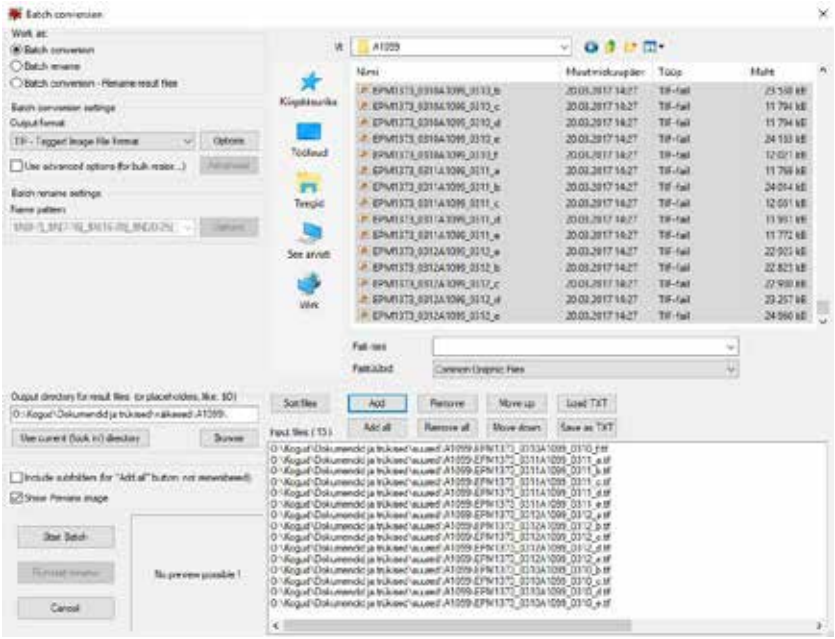

Illustration 3

File naming system which we use is based on letter and numeral combination and it reflects our museum's accession numbers.

For example, when object of documents-and-manuscripts collection has number EPM TR 1373:1 A 1099:1, then the filename of digital image is composed like this: EPM13730001A10990001

EPM- museum's acronym

1373- number of overall accession

0001- item number in the accession

A -collection identifier

1099 - collection lot number

0001 - object ID within the lot1

Recently we changed our file naming system and now we add underscores to separate collection and item number so that in a new with MuIS integrated shared online repository for Estonian museums digital files could be automatically linked to the corresponding objects. Our new filenames look like this: EPM1373_0001A1099_0001 or EPM_FP1373_0001.

Quality of scans depends on an object character and recommended resolutions stated in guidelines are considered. Photographs, glass negatives and small-scale ex-librises are scanned in TIFF file format with resolution of 800 dots per inch. Documents and manuscripts are scanned also in TIFF file format but with resolution of 300 dots per inch. Objects of artefact, art and textile collections are photographed in JPG file format. For Museum Public Portal semi-master-scans in TIFF-file format are converted to derivate files with dimensions stated in aforementioned regulation, namely in JPG-file format with resolution up to 72 dots per inch and longer edge resolution set to at least 800 pixels.

There are few principles we keep while digitizing objects of photographic and documents-and-manuscripts collection. Usually we use cropping while scanning, that means we do not leave so-called white border around the document or photograph edges. Every additional information written on the verso of the photo or on the paper sheets glued to the verso of the photo will be also scanned. Documents and manuscripts are scanned fully when their volume is less than or equal to seven sheets, so maximum pages scanned from one document and files created is 14. Documents with higher volume are scanned partially, usually first page but also sometimes example pages and if available, table of contents.

Video-, film and phonographic collections includes 16, 35 mm films, filmstrips and cassettes which have all been digitized as a custom work and turned into AVI, MP3 and WAV file formats which we store in our server.

Estonian Agricultural Museum gives its best to comply with given guidelines for museums to digitize their collections, but there are always room for improvement. But I think our museum is doing fine for now.

Mari Siiner

Project manager since 2010
Conservation and Digitization
Centre Kanut
Open Air Museum, Estonia
mari.siiner@evm.ee

Educational background – chemistry, material science and preservation management of cultural heritage.
1998-2014 Expert of Memory of the World Program and Member of Council, Estonian National Commission for UNESCO
1996-2009 Head of Preservation Department, National Library of Estonia

Martin Sermat

Head of the Documentation and Digitization Department since 2014
Conservation and Digitization
Centre Kanut
Open Air Museum, Estonia
martin.sermat@evm.ee

Educational background – Department of Information Studies, Information Science
2006-2014 Digital Archive Specialist

WITH OR WITHOUT THE GUIDELINES FOR DIGITISATIONS? VALIDITY OF THE GUIDELINES FOR DIGITISATIONS

In this paper we give an overview of the Guidelines for digitising museum pieces compiled in 2016-2018 supplies and supports digitising planning and management for the Estonian museums staff who either are already engaged in digitising or are just starting it, http://www.kul.ee/sites/kulminn/files/tasapinnaliste_museaalide_digiteerimine.pdf

These first guidelines in Estonian for museums contain advice and rules but also explanations and definitions of the terminology used in standards and guidelines of another countries. Schemes and tables are presented, in expectation to support the explanations.

The Guidelines

GENERAL PRINCIPLES AND PRIORITIES OF HERITAGE DIGITISING

The best practice of digitising the cultural heritage requires value-based digitisation, i.e. reproduction of objects on the best available technical level and considering the former practices and experience.

In which way does the Guidelines differ from the ordinary digitisation of an object? Why do we consider one process of digitisation more value-based than another?

As a rule, digital reproduction of two- and three-dimensional objects is considered value-based when…

- Digitisation creates a good-quality copy, visually as close to the original as possible. The prerequisite for it is the high-quality technique (Fig. 1-3) of digitisation. Meeting the demands of the rules in the Objective Preservation Imaging guarantees the quality of the digital reproduction at value-based digitisation.

Fig 1 *Linhof Master Technik Digi Repro, Rencay Archive "Plus"*

Fig 2 *Linhof Master Technik classic Camera 4x5 / Anagram production2 312Mp / 4x Fluorescent light Type 6 6 x 55 Watt*

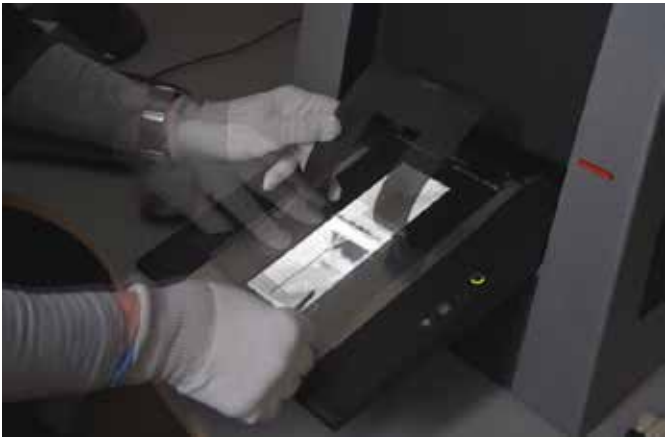

Fig 3 *Hasselblad Flextight X5 - Virtual drum scanner*

- The value (Fig 4-5) the object has been estimated according to realistically controlled criteria. The evaluation criteria of cultural-historical objects depend on the level of society's general political and cultural development. Differently from the market value, the cultural value can be appraised only according to long-time agreements in a culturally sustainable society. This, in its turn, means concord in appreciation regulations.

- The evidence of the value appreciation and digitisation itself have been recorded and described as precisely as possible, so that the result is evidence-based documentation (Fig. 6-7) (metadata) for archival records. This documentation (description) of the object can increase the public interest, especially in case the data prove the value and explain the essence of it clearly. High-quality information and skilful use of the data raise the educational level of the public significantly.

These Guidelines explain how to proceed with value-based digitisation when choosing museum pieces for digitising. Essential parameters for selection are listed. The priority of selection should be the considered risk of persistency (keeping quality) and the frequency of the item's use.

The Guidelines was compiled based on the best practice of the Netherlands (Metamorfoze) and USA guidelines (FADGI practices).

MASTER COPY / MASTER COPYING

It is explained that the aim of the digitised reproduction museum pieces is to create a quality digital copy of the original that would include as much visual info characteristics of the original as possible. This first authentic copy straight from the original is called a master copy and the process itself might be called master copying.

The guidelines with its aim and principles is a comprehensive instruction for master copying.

Digital imagining aims at producing high-quality digital copies of the original artefact and includes the highest possible amount of its characteristics, i.e. making a master or archival copy of the artefact. For producing user copies TIFF-format files are made before the master copy is archived. Special file and image software is used to produce several second-generation rendered files dependant on the potential future use of the copies (including, for instance, printing or delivery). Various formats (JPEG, PNG) are used, in which the image is easier to visualise and process, but these copies usually include less information than the original archival file. One of the key points in the process is to control the quality of the master copy where subjective visual assessment should be avoided as far as possible.

A consistent standard has to be maintained through the digital imagining of the collections, the quality of the files needs to be guaranteed and controlled independent of the person conducting the scanning or photographing.

ENVIRONMENT FOR DIGITISING

It is explained what has to be kept in mind when creating a proper environment for digitising. It is vital to keep in mind the cleanliness, equipment and illumination (light) in the room. The latter is especially emphasised, as the quality of tonality of digitised picture files would not be good enough if the demands of illumination are not met.

SELECTION OF THE LCD-MONITOR

Recommendations for the selection of the monitor and instructions for its calibration and cleaning are given.

SELECTION OF THE SCANNER

Principles for selecting an implement for scanning opaque and transparent plane objects are explained.

SCANNING PLANE/EVEN OBJECTS

Additionally, to the principles of scanning, differences in scanning printed and manuscript (on paper or parchment, documents, drawings, engravings, maps, blueprints, bookplates, postcards) materials are explained. Special attention has been paid to scanning photographic material (photo negatives on plastic and glass, slides and photo positives on photographic paper.).

The minimal demands for master copies of photographic material, depending on their kind and size, have been presented in a table form separately.

SELECTION OF A DIGICAMERA for digitising plane and three-dimensional objects Parameters for selecting suitable cameras and lens to digitise plane and spatial objects are given.

PHOTOGRAPHING WITH A DIGICAMERA

Digital cameras have become first line digitization tools in the cultural heritage community in the past few years. The use of professional cameras has made digitisation practices more complicated. The process needs guidelines and standards.

Recommendations together with illustrative schemes are given to support the creation of technical working environs. In addition, basic principles of digitising plane and spatial objects with a digital camera are presented.

Appendices to the Guidelines

Appendix 1. MAKING UP A DIGITISING PLAN

Principles and practices that should be considered, envisaged and arranged before launching the process have been listed in this appendix. The process, responsibilities and schedule included is called digitising plan. The digitising plan may be a part of the museum collections management and principles, but it might also be a separate document.

Appendix 2. HANDLING OF THE OBJECTS AT DIGITISING

Guidelines for arranging the transport and handling of the items during the process have been presented.

Appendix 3. WORKFLOW OF DIGITISING MUSEUM PIECES

A simplified scheme has been presented, expecting better understanding of making the process up and show the bonds between its various stages.

Finally, we want to point out that the guidelines by their very nature are static or restricted to the specifics of the environment in which they were produced, whereas guidance looks at the way things flow and adjusts accordingly. As we utilise this technology, we want to make informed decisions, to understand the consequences of choices made upstream to what flows thereafter, and to be prepared to right our course occasionally as things change. Digital imaging is a process not a prescription.

In this paper we discuss about the Guidelines for digitising museum pieces, version 1.0, compiled in 2016 supplies and supports digitising planning and management for the museum staff who either are already engaged in digitising or are just starting it.

The guidelines contain advice and rules but also explanations and definitions of the terminology used. Schemes and tables are presented, in expectation to support the explanations.

Conclusions

In one of the Conservation and digitisation Centre Kanut department, in digitization and documentation department, objects which have been conserved in our institution are acquired with a high-quality digitization system.

Specialists in this department work often as consultants on digitization and on a project-basis as well. We recognize the importance of any (digital) document or

record created during intervention process as a part of cultural heritage which has to be accessible as the cultural heritage object itself.

Reproductions are mostly produced because of preservation needs of the analogue object. Finally, we want to point out that the guidelines by their very nature are static or restricted to the specifics of the environment in which they were produced, whereas guidance looks at the way things flow and adjusts accordingly.

As we utilise this technology, we want to make informed decisions, to understand the consequences of choices made upstream to what flows thereafter, and to be prepared to right our course occasionally as things change. Digital imaging is a process not a prescription.

Maiga Davõdov

Conservator-restorer
Estonian Agricultural Museum, Estonia
maiga.davodov@maaelumuuseumid.ee

A Romance-Germanic philologist by education, she worked for 10 years at University of Tartu Library where she developed an interest in paper conservation and started working as such, mainly working with geographical maps. She has taken several professional training courses in paper conservation. Since 2014 Maiga is a conservator-restorer at Estonian Agricultural Museum working with documents, paper-based artwork, maps and photographs.

PAPER CONSERVATION ON EXAMPLE OF CONSERVING E. EINMANN'S ART

Estonian Agricultural Museum has an artwork collection that includes paintings, busts, drawings, ex-librises, sculptures and engravings. Our latest bigger addition to the collection were 76 portraits by Estonian artist Eduard Einmann (1913-1982) from 1950-1960. They were bought from artist's son in 2016 and are made in different techniques, namely charcoal, pencil, pastel, sanguine and graphics. Drawings were in bad condition – dirty, deformed, yellowed and some with tears and missing parts – and needed conservation and restoration which was done in our museum. First step of process was dry cleaning during which dirt and dust were removed using brushes, erasers and microfiber cloth. Next step was spraying fixative over works to prevent smudging and separation of particles of media from paper.

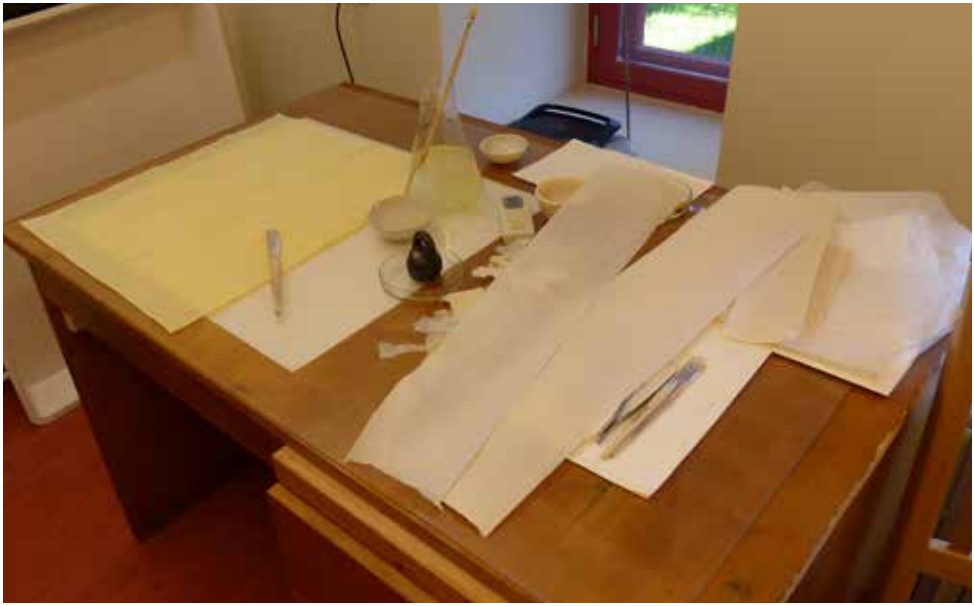

Figure 1 *Worktable of museum paper conservator*

Figure 2 *Packaging of conservated drawings*

Figure 3 *Before…*

Figure 4 *… and after*

It was followed by wet cleaning in order to remove water soluble products of aging of paper and acidic components. After cleaning all the tears were repaired with Japanese paper and missing parts were replaced with repair paper in suitable tones. Finally works were placed under press for several months. About 30 drawing from all the conserved and restored works were selected for the exhibition entitled „Eduard Einmann's portraits of country people from the 1950s "opened from May to September 2017. After the exhibition all the works were packed and placed into repository.

Kadri Nigulas
Chief Specialist
Ministry of Culture, Estonia
kadri.nigulas@kul.ee

Photo: *Birgit Püve*

COLLECTIONS ONLINE – ESTONIAN MUSEUM INFORMATION SYSTEM MuIS

Digitizing cultural heritage and supporting its re-use is the key to making the collections more available and raising awareness about history and heritage. In Estonian cultural policy digitizing collections has been set as one of the priorities. Together with up-to-date information systems and web services digitization supports long-term survival and availability of cultural heritage and helps to promote its use in education, media and creative industries[1].

For most Estonian museums the choice of information system for managing collections and making them available online is easy – there is a central information system developed by the state, which is available for most of the museums. Estonian Museum Information System MuIS was first piloted in 2008. The public portal was implemented in the end of 2010 – this was the first time Estonian museum collections became available online. Before that, some of the museums had been using KVIS – kultuuriväärtuste infosüsteem, Cultural Heritage Information System.

[1] The general principles of the cultural policy up to 2020, 12.02.2014, 4.

KVIS was created as a local database and therefore worked independently in each museum. KVIS was developed in 1993 – 1995 and implemented in 1997 – 2003.[2]

The main purposes of Estonian Museum Information System can be divided in two: collection management and making collections available online. The functionalities include cataloguing objects (describing and linking with images), managing digital assets, making the collections and digital assets available on public portal www.muis.ee and documenting all the main activities connected to collection management – acquisitions, accessions and deaccessions, loans, conservation, inventories, exhibitions etc. MuIS supports online cooperation between museums and enables digital document management for collections.

The owner of MuIS is Estonian Ministry of Culture. The Ministry finances and coordinates the development of the system in together with partners, organizes trainings and consults museums and the public in using MuIS.

In May 2017, 60 Estonian museums were using MuIS.[3] 29 of these museums were state museums or museums holding state collections, for whom MuIS is compulsory for collections management and making the collections available online[4]. Other 31 museums had joined MuIS voluntarily. Some of these museums are operated by local governments, some by persons in public law and some are private museums.

Using MuIS is free for all museums, but they have to follow Museums Act and regulations in their collection management and documentation.[5] The museums also have to meet deadlines for describing objects in MuIS and adding images. The data and images have to be made publicly available, unless subject to restrictions by law (mostly for data protection).

By the end of May 2017 there were 3.1 million objects available in MuIS[6]. This was about 63% of all of the collections of the museums that were using MuIS[7]. Out of these 3 million objects about 1 million (33%) were available with at least one image[8].

There are more than 700 users of MuIS among museum staff[9]. Public portal www.muis.ee gets about 220 000 views in a month[10].

[2] Jeeser 2009, 20.
[3] Ministry of Culture, MuISi kasutajate nimekiri, 31.05.2018.
[4] *Muuseumide andmekogu asutamine ja põhimäärus*. § 5 (1).
[5] Ministry of Culture, Infosüsteemiga liitumine, 31.05.2018.
[6] Museums Public Portal, 30.04.2017. By May 31st 2018 the number was 3.2 million.
[7] Statistics Estonia, 18.05.2018.
[8] Museums Public Portal, 30.04.2017. By May 31st 2018 the number was 1.2 million.
[9] Museum Information System, 30.04.2017. By May 31st 2018 the number of users was almost 800.
[10] Google Analytics, 31.05.2018.

Besides the public portal MuIS has applications for data harvesters: OAI-PMH service (ESE and LIDO schemas) and open data portal opendata.muis.ee, where data is made available in RDF format.

Estonian museums have a decade long experience in using a common central information system. From that experience some conclusions can already be drawn. A central database and information system for collections has lots of advantages. Based on MuIS some of the main benefits are:

- Smoother cooperation between museums. MuIS enables museums to reach information about their collections online and manage loans directly in MuIS without any extra moves or paperwork. Also, the work processes of different museums are more unified when working in the same system and it is easier to collaborate.
- Better overview of museum collections. Central database enables to get information and analyse not only a collection of one museum, but all of the museums. This helps to unify collection policies, make decisions in developing collections and leads to more considered accessions (and de-accessions).
- Standardised description model and common ontologies support better quality and better possibilities for (re)using data. MuIS has common guidelines and central ontologies for describing objects. Model for describing objects in MuIS is partly based on CIDOC´s Conceptual Reference Model (CRM)[11].
- Better overview of the state of digitisation of collections and the amount of work done in museums.

There are many advantages of having a central system to manage museum collections. Nevertheless, transition from a local system/database to a central one can be quite challenging and there are sacrifices to be made. Some of the difficulties to be faced can be:

- Difficulties in unifying the descriptions and ontologies. If each museum has their own vocabularies, it is very easy for them to add the necessary terms in a form that they prefer. When using a central vocabulary, it is not that easy for each user to get new terms added and they can be rejected. Also, the traditions of describing objects can be quite different in various institutions and finding compromises can be painful.
- Difficulties in unifying work processes. It may seem that all the museums manage their collections in the same way and their processes should be quite

[11] Jeeser 2009, p 26.

similar. In reality, there might be more differences than we imagine. Joining a central system usually means making some compromises and changes in your processes.

Estonian museums have done a lot of work in unifying both the ways they describe collections and all the processes connected to managing museum collections. The work continues. The main challenges for MuIS today are:

- Data quality. There is lots of data in the database by now, but its quality differs. There are legacy issues – some of the data is quite old and comes from periods, when the rules for inserting data were different from now. Some data has been migrated to MuIS from another database (KVIS – kultuuriväärtuste infosüsteem, Cultural Heritage Information System).

- Long-term preservation of data (including digital images and other files). In 2017 a digital repository was implemented, which has been built for long-term preservation of digitally born and digitized cultural heritage in museum collections. But it is a constant challenge trying to keep up with changes in file formats and the best practice in digital preservation.

- Data quantity. Despite of massive work already done in getting the data from paper into the database, there are still about 1.8 million objects which are only described on paper. Finding ways to get the data into the database quicker is a continuous brainwork. As Estonia lays lots of stress on digitizing cultural heritage and big digitization projects are about to start in 2018, we also have to think about optimizing the digitization process and dealing fluently with large quantities of data. The digital repository of MuIS has been developed to support digitization process and bulk activities with files and data.

- User-friendliness and promoting reuse. Having good quality content available in a way that it is easy to find and use, is the key factor in promoting re-use of cultural heritage data. One of the recent developments, that supports providing quality content, is the digital repository. The digital repository enables archiving digital files (digitally born material and digital reproductions of physical objects) and making these available for the public.

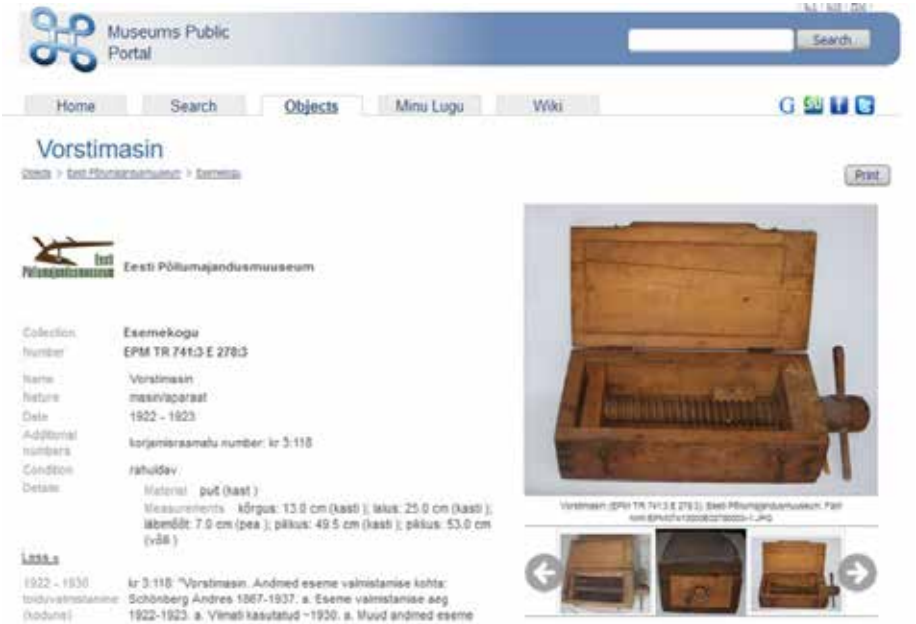

Figure 1 *Screenshot from MuIS*

Aside from today's challenges we have to face the fact that MuIS is becoming quite outdated as a system and doesn´t respond to the needs of today's users. Therefore, we have started to plan a new system that would replace the existing one. A business analysis has been carried out in 2015 – 2017 to define the requirements for the new system. Usability analyses and design project will start in 2018. The main goals of so-called MuIS 2.0 compared to the existing system are:

- User-friendliness. The MuIS 2.0 must have much better usability than the existing one. It should be designed for the users and together with users.
- Less time-consuming processes. If the processes are all well planned, and the system is well designed, it saves time for the users. Optimization has been one of the aims in renewing the processes.
- More participative approach. Museums are becoming more and more open to the public. Enabling the audience to participate not only in educational programs and creating exhibitions, but also in collecting and describing collections (adding additional data) is a must by now. So better cooperation between the museums and also involving people outside the museums in creating content is an important goal.

The work with MuIS will continue. The amount and quality of the data in the database will grow in time. Developments planned for next years will hopefully lead to a better system and better user experience. All the investments done in MuIS are aimed at making the cultural heritage preserved in museum collections even more available in the future to help everyone connect to heritage in a way that is most convenient to them.

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9. Google Analytics 31.05.2018

Workshop Summary by Kerry-Leigh Burchill

The Digital Media in Museums Workshop was well attended by museum professionals that were proactively in the midst of digitizing their collections and establishing shared networks to make these digital records accessible to the public.

The Workshop began with a welcome and introduction of the participants in the room which ranged from collection and research professionals to public relations and programming staff. A question was posed to the group for consideration: "How can we as museums use digital media to make our collections more accessible to the public and to engage a wider audience in questions of relevance and heritage preservation?" After the presentations a group discussion ensued about how to harness digital media and technology.

Kerry-Leigh Burchill

Director General
Canada Agriculture and Food Museum
Ottawa, Canada

kburchill@techno-science.ca

Kerry-Leigh Burchill is a senior executive for Ingenium which also includes the Canada Science and Technology Museum and the Canada Aviation and Space Museum. She has worked in the areas of business development, strategic planning, policy development and commercial operations and at the time of the CIMA XVIII was the executive champion for Open Heritage – an initiative to make Ingenium's collections, archives and works in progress more accessible to the public through an online portal. Ms Burchill also serves as an executive member of AIMA.

Workshop 4

Bread and Traditional Food

Workshop leads:
Vahur Kukk, President of the Estonian Rye Association
Merli Sild, Director of Estonian Agricultural Museum

Hands-on breadmaking activities in the Bakery of Estonian Agricultural Museum led by

- Bakery hostess Tiina Ivandi
- Ukrainian baker Kateryna Kalyuzhina

Symbolism in traditional Latvian rye by Indra Cekstere
Estonian Culinary Route by Laivi Mesikäpp
Estonian Rye Route by Vahur Kukk
Rye and Estonian Agricultural Museum by Merli Sild
Rye bread in South-East Estonia by Iti Toom

Indra Cekstere

Doctoral candidate LU FHS
Riga Latvian Society
kamenite12@inbox.lv

Philologist and forester by education, she worked as an ethnographer and expert in cultural history at the Gauja National Park from 1974 to 2009. From 2013 to 2017 she studied at the University of Latvia Doctoral Studies program in folklore and is a doctorate candidate with a doctoral thesis on traditional Latvian rye bread baking and related folklore, customs and symbolism. In 2004 she wrote the book "Mūsu maize / Our daily bread". For 12 years she has worked as an ethnographic pedagogue at the Sigulda School of Art and has been conducting a children's folklore group for 20 years. She has published scientific and popular articles on chair craft, traditional bread baking, vocabulary, cultural monuments, folk traditions, organized exhibitions and celebrations. Since 2003, St. Jacobs day - day of bread has been organizing in Āraiši windmills in Amata region near Cēsis. She addressed the study and popularization of the German-Baltic cultural heritage, translated many German-language memories of life in the Baltics and the book "Am Rande der Weltgeschichte" by Herbert Heinrich von Blanckenhagen. Active participation in the Riga Latvian Society Folklore Commission, participating in classes and events for children and adults related to the traditional Latvian culture, as well as popularizing and researching the Finno-Ugric cultural heritage.

LATVIAN TRADITIONAL RYE BREAD SYMBOLISM AND USE IN CALENDAR AND FAMILY CELEBRATIONS. TRADITIONS AND MODERN INTERPRETATIONS

The author of paper is studying the use and symbolism of rye bread in Latvian traditional culture. By analysing the huge number of story tellers and rye bread bakers, you can possibly conclude, that the rye bread baking traditions and symbolism is still conceivable and necessary in modern Latvian culture. The oldest bread crop in the territory of Latvia is barley, the word 'maize (bread)' originates from the word 'mieži' (barley). Latvians have different meanings of the word 'bread': food, made from flour, whole foods, and also human spiritual needs. Folklore is the storage of bread-related traditions with respect and love for bread. Rye bread baking at home is again modern. There are several traditional baking offers: "Donas" in Smiltene, a museum of bread in Aglona, and also at large bakeries. Signs are used for traditional seasonal bread and gingerbreads; so there is an increased interest about meaning of signs. Since 2003 Jacob's day is celebrated – the day of new bread in the Araisu windmill, with a baker's workshop and a bread market. Now many farm visitors can bake bread. The Livonian traditional culinary heritage also is studied - rye bread, cakes, sour porridge, fish loaf. In Baltic culture the word 'bread' is related to the Middle German words 'daigh' and 'hlaif' (dough, loaf). Rye bread's symbolic importance united the Baltic lands, and thus we share a common history and a related perception of the world.

Latvian breads. Photo by Indra Cekstere

In Latvian traditional way of life – up to the 40-ies of the 20th century - the bread in daily use was rye bread, alongside the various porridges that were used from processed barley – grits and pearl barley; and potatoes.

The signs of Latvia. Photo by Indra Cekstere.

At the end of the week, on Saturdays, the bath was heated and barley or little round breads (karašas) of coarsely ground wheat were baked, sometimes - a rye cake or cakes with filling (sklandurauši, dižrauši).

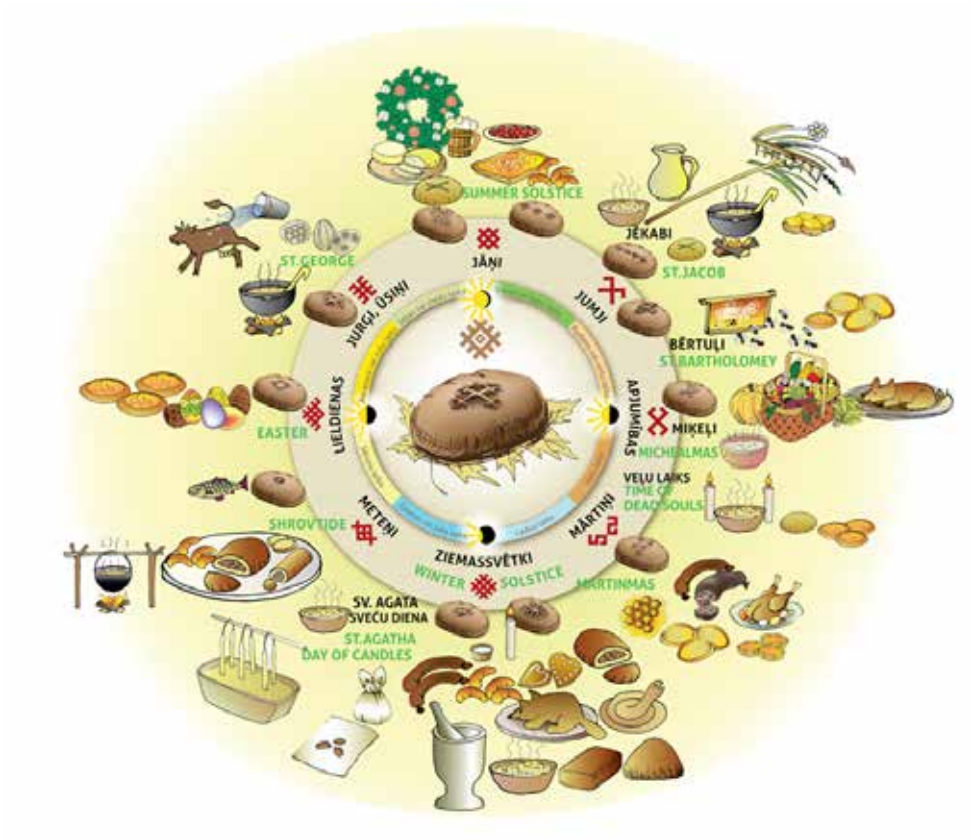
For festivities, white bread from wheat flour was baked, and a variety of cakes, little round breads, pies. Later, they included a variety of tart (plātsmaizes).

Bread had an important place in the family's holiday rituals.

A marriage envoy had to treat. If the marriage offer was not accepted the white kerchief with a meal was not opened. If the marriage was issuing, table refreshments were offered. Consequently, the dowry brought to the groom's home included bread, baked by the bride. The young wife divided this bread after the ceremony of taking away the bride's veil and getting wife's cap. Before going to the wedding, the bride had to sit on the dough trough eating the "bread of life". In the bridegroom's pocket a piece of bread was put and a silver coin. A silver coin had to be in the bride's shoe as well.

For baptism, the baptized child received a piece of cloth including salt, bread, a silver coin, sometimes also the book page. Returned from church – from baptism, every visitor broke bread - 3 pieces, which were sprinkled with salt,

said the wishes, ate and drank beer. Sometimes beer was poured on the table and splashed with the hands. At baptism, by eating bread with milk, quests were sitting close to each other – than godchild don't get rare teeth. Godparents took care of godchild, visited him, bringing a better loaf of bread (flat bread, cakes). To baptism guests bring odd number of loaves to no birth twins, but to the wedding – couple - to be on the new couples.



Year of the Sun. Illustration by Indra Cekstere

At a funeral in the 17th century, Latvians placed a large loaf of bread on the graves of the departed, and bread and money for white bread was put inside the coffin. The oldest traditional delicacy - honey cake or honey pot - was placed in the tomb for Mother Earth or Mother of Souls (Veļu māte). During time of dead souls, which lasted usually from Michaelmas to Martinmas to commemorate the dead relatives, a table with meal was prepared and oldest people invited the spirits of the deceased to taste. They visited their home at the solstice time as well - Midsummer and Christmas.

Special bread was baked for folk calendar celebrations - Jesuit reports mention the winter solstice bread baked like a snake or a dog (supposedly - a wolf). Folk song mentions angled, stack-like bread so that everything would be "heap to heap" in the new solar year. Shrove Tuesday was a special baked round bread stuffed with finely chopped meat, onions, hemp. Sometimes this bread was rolled up, therefore given the name - vīsteknis, slokatnis. Shrovetide (Meteņu) traditional dishes are groats porridge with rich meat additives and pies, stuffed with meat.

For Easter baked little, round breads with cottage cheese, on the table was the butter, cottage cheese, jelly, veal. Were many boiled and coloured eggs. St. George's day (Jurģi), the first time in expelling the horses grazing in the night, ate a pot of boiled pantags - scrambled eggs with diced meat and onions; boiled eggs.

White wheat bread was prepared for Pentecost (White Sunday). Midsummer main dish is cheese and beer, but also baked little breads, tart, cake and berries.
On Jacob's and Anna's day new rye and barley bread was baked, which was especially worshipped and served also boiled vegetables and lamb soup.
In autumn, a plentiful meal was prepared for harvest – on Michaelmas, when cooked lamb, pork, chicken, boiled soup, baked bread, were brought on the table with a variety of vegetables and fruits. On the beginning of winter and at the end of grain threshing they usually celebrated Martinmas and on the table was brought a rooster and chicken roast, pancakes and pearl sausages with blood added, cakes, cakes with carrot filling, honey cakes, and beer. The richest table was present on winter solstice - for the next year of the sun – than it would be rich and successful. The special place of honor was for a loaf of black bread, salt, and a burning candle, which burned all night. Eating was 9 times and on the table brought 12 different dishes - grain porridge, pork snout with beans, boiled peas, pies, cakes, stewed cabbage, potatoes, pork roast, sausages, later joined gingerbread, tart, baked apples. By seaside on the table puts various fish dishes, with fish and meat stuffed bread loaves (similar with finish kalakukko), cakes with potato and fish filling. In catholic region of Latvia especially honored was bread of St. Agatha (5-th of February), what protect by fire accident and unhappiness.

Laivi Mesikäpp

Project manager
Estonian Culinary Route
toidutee@maaturism.ee

ESTONIAN CULINARY ROUTE

The project Estonian Culinary Route was introduced for promoting local businesses offering local cuisine made from local produce. About 150 caterers are engaged in the project today, located all over Estonia.

www.toidutee.ee
www.balticseaculinary.com

Even though the eateries offering Estonian cuisine and introducing Estonian culinary culture can be anything from a small farmhouse to an acclaimed fancy restaurant, and the food anything between simple rustic cooking or inspired by the Middle Ages, the Baltic Germans or the Soviet times or even a completely modern take on the traditional Estonian cuisine, it is still all connected by the same values:

1. The four clearly distinguished seasons, also represented in our cooking;
2. Different culinary regions, each one with its own characteristics;
3. Nordic climate, forests rich in game, berries and mushrooms, rivers and lakes full of fish, fertile fields and species-rich grasslands;
4. Very high-quality food and produce grown by smart farmers and cooked by knowledgeable chefs, who recognize the importance of local food, supported by conscious consumers, who insist on their food being top quality.

Vahur Kukk

President
Estonian Rye Association
vahur.kukk@etki.ee

RYE ROUTE – AN INTERNATIONAL PROJECT ABOUT RYE AND RYE BREAD IN OUR CULINARY TRADITIONS

Significant quantities of rye currently used for animal feeding may be redirected to human nutrition. Along with several events dedicated to various aspects of rye, such as international conferences and workshops conducted in Switzerland and Estonia in 2011 and 2012, The Food and Agriculture Organization (FAO) – a specialized agency of the United Nations that leads international efforts to defeat hunger – supports the efforts of Estonia to reverse the negative trends in rye production and consumption and to prepare technical and policy frameworks for the conservation and sustainable use of rye regionally and worldwide. For this purpose, the following actions are envisaged:

Establishing and developing an international network of organizations and companies dealing with various aspects of rye, such as:

- Rye breeding, seed production, cultivation, milling, production of rye commodities/products

- Scientific research, preservation of rye genetic resources
- Advisory services
- Education and training
- Preservation of traditional heritage, collection of historical material

Collecting up-to date information on the state of art on rye production, utilization and consumption at country level.

Elaborating a project to raise attention to the importance of rye in terms of breeding, production, processing/transformation into a variety of rye products with ultimate aim to increase the demand and consumption of rye products by consumers.

It is expected that these acts will contribute to focusing the regional attention to the role of rye in ensuring food security, nutrition, feeding livestock and increase the visibility of the high potential of rye to contribute to protection of biodiversity, sustainable food systems and to the variety of its possible application.

Project network interest groups:

- plant breeders, researchers
- seed growers, seed distributors
- bread grain producers
- millers
- bakeries
- producers of niche rye products
- bread sales networks
- end-users, consumers
- civil society, NGO
- governmental organisations, legislative authorities

Depending on nature of activity and defined target group foreseen activities shall be undertaken either on national and international level.

Activities shall secure preservation of biodiversity, to promote healthy food and nutrition, to enhance rye related research, to maintain national cultural traditions.

There is an Estonian Rye Route, a network of several institutions dealing with research, cultivation, utilisation and education on rye.

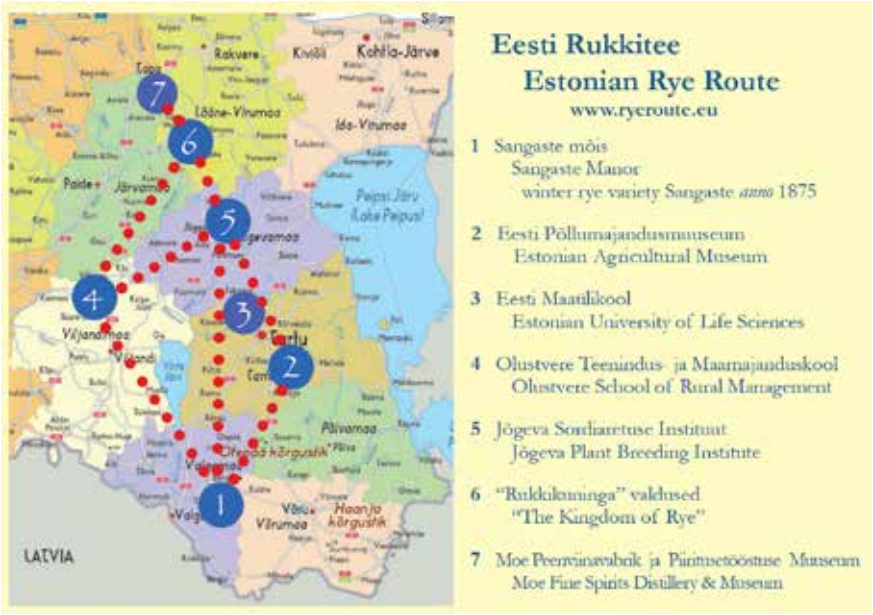


Fig. 1. Map of the Rye Route in Estonia

Estonian Rye Route is a national network for contributing to:

- safeguarding of national cultural and historical heritage;
- further increase of cultivation and utilisation of rye;
- extension of rye exploitation;
- promotion of plant breeding and seed production;
- preservation of plant genetic resources;
- improvement of food safety and consumer protection;
- protection of biodiversity;
- development of an international cooperative network "More Attention to Rye".

Rye route is local, regional, countrywide and international multilateral and multicultural phenomenon based on uniqueness and distinctiveness, similarity and versatility of dietary habits and culture in connection with rye. Rye bread is irreplaceable food with remarkable dietary value on our table.

Merli Sild
AIMA/ Estonian Rural Museums Foundation
merli.sild@maaelumuuseumid.ee

Merli Sild graduated from cultural management studies (with additional speciality of a conductor) at Tallinn Pedagogical Institute in 1976. She received her Master's degree in cultural management from University of Tartu (2008).

Her work experience include manager of cultural department of Jõgeva County (1988-1994), secretary of Society of Friends of the Estonian National Museum (1994-2005). Since 2005, she has managed Estonian Agricultural Museum and worked wonders with its premises, collections and public engagement.

In 2103 - 2017 she was elected President of AIMA and continues to serve at its Executive Committee.

SIGNIFICANCE OF RYE AND RYE BREAD IN ESTONIA

Estonians have been a farming nation throughout ages with main source of livelihood in agriculture. Ever since the 11th century rye was grown more and more extensively in Estonia, and it became our main bread crop during the following centuries. From then on, 'the bread' for Estonians means rye bread. Rye harvest was one of the most important and most difficult tasks at a farm. Rye bread became one of the symbols of the continuity of life, having fed the Estonians for ten centuries. That is why we can definitely say that rye bread is our national food.

Most common local rye crop had thin grain and low productivity. Many foreign rye varieties were grown at estates but none of them proved frost-hardy. The first well-known rye breeder in Estonia was Count Friedrich Georg Magnus von Berg (1845–1938), the owner of Sangaste Estate. To find a rye variety suitable for local conditions, Count Berg decided to develop a new rye himself. In 1875 he succeeded in breeding a new variety of winter rye. Frost-hardy, long-stalked and high yield 'Sangaste' won

Grand Prix at the World Exposition in Paris in 1889 and continues to be grown and cultivated to this day.

Rye yield has increased comparing to 1960s, but cultivation area of rye has decreased. Local consumption has not increased much. Rye is not traded on stock exchange, so it's not commercially as attractive as for example wheat or corn. But as it is resistant to cold, and less demanding of high soil quality, it remains a globally important grain with a potential for growth.

Contemporary food culture in Estonia is changing. New recipes and new kind of food is making our table richer and more international. But thanks to that tendency our children have started to eat less healthy products and more chips, hamburgers and other unhealthy food. They do not know or value the importance of knowing that they eat or from there their food is coming to the table. And they forget some pieces of our old customs every day. Because of all that the Estonian Agricultural Museum started a bread programme. Estonian Agricultural Museum has offered this programme for over ten years already. And as we have added some new events every year the programme has been constantly evolving. The Museum has a rye field, and we sow and harvest our crop with the help of schoolchildren.

Photo 1 *Children harvesting rye during their study trip to Estonian Agricultural Museum*

Every year at the St. Mary the Virgin Day August the 15th there is a celebration of the end of the rye harvest at the museum. We demonstrate rye harvesting with sickle,

tying of rye sheaves, stacking the sheaves, threshing and winnowing, threshing grain by hand and with threshing machine, making flour by quern. We bake traditional rye bread at the museum bread cottage and offer national food and drinks.

Photo 2 *First-hand experience of hard work of making flour*

A few years ago, the Estonian Ministry of Agriculture decided to give us some extra money for the program, so the museum started a new improved program "Rye bread on our table" for the Estonian schoolchildren. The program is free of charge and the ministry pays for bus rent for the schools, so children can visit us without any money problems. With the program the museum introduces how bread became the basic food of the Estonians.

Visitors, especially schoolchildren can learn about grain, history of the rye bread and cultivation tools. The museum grows rye of 'Sangaste', so the visitors can try different old work methods connected to grain at the museum barn. They also bake bread, make butter and taste it at the end of the program. This way they learn to value the importance and wholesomeness of our most important national food.

We have compiled some helpful educational materials for schoolchildren: a workbook, various pamphlets about cultivation history and bread. We also have 2 x 2 meters dice game "How to make bread" played on the floor and the smaller table version of the game.

Photo 3 *Distinguishing between different grains*

Sangaste Rye Village is a little lovely village among hills and rye fields, with the smell of warm home-baked bread greeting the visitors. The villagers are happy to introduce the story of the Sangaste castle and rye, the pristine nature and local life. This is a developing network of local tourism enterprises, guides, hunters, handicraft masters, activity providers, farms etc. There are tours taking place in Sangaste Rye Village and excursion in castle from roof to cellar, in manor park with opening all secrets, in manor area on horse carriage, in Rye Village and even to Otepää or Valga town.

SEMINARS AND ACTIVITIES ON RYE AT ESTONIAN PAVILLION DURING WORLD EXPO 2015 IN MILAN

- Seminar about rye cultivation in Estonia and consumption of rye products
- tasting of rye products: rye bread straight from oven, roasted grain mixture meal (*kama*), rye beer, rye vodka, kvas
- Demonstration of bread making and baking: traditional bread-making with sour dough starter (without yeast)
- Guessing game "Do you know different cereals?"
- Demonstration of making flour in a mortar, visitors have a possibility to try it by themselves
- Playing the board game "How bread is made"
- Exhibitions "Bread Is the Master of the Farm" and "Versatile Rye – Food and Drink on the Estonian Dining Table"
- A film "From Rye to Bread"

Photo 4 *Merli and Ellen baking and offering fresh rye bread to World Expo visitors in Milan*

Workshop Summary by Vahur Kukk and Merli Sild

Although we also discussed food and traditional diet in general, our focus was on rye and rye bread. Cultivation of winter rye is economically beneficial in the regions characterized by severe spring drought periods. It produces good yields even in low-fertile soils where other cereals may fail. Winter rye is a sustainable crop in economic and ecological terms with potential to contribute to ensuring global food security and therefore it deserves more attention within search of local and regional options for sustainable, environmentally-friendly food systems. Rye and rye products (rye bread and crispbread, rye flakes and porridges, pastries and snack products) may serve for diversifying diets and intensifying linkages between agriculture, nutrition and health through nutrition-enhancing agriculture.

We concluded that rye bread is our common cultural and historical heritage as well a nutritional treasure. There are common rye utilisation and consumption traditions in our countries. Recipes of rye bread making in regions are overall similar, yet different and distinct. We welcome an initiative to establish an International Network of rye bread makers, with founders are Estonia, Moravia, Latvia and Ukraine, and invite all interested parties to take necessary steps to join this Network.

Rye bread is our cultural, traditional and multinational treasure that is uniting us into one Rye Bread Brotherhood and Sisterhood! More attention to rye bread, long live the Rye Bread!

Workshop 5

Living Animals in Museums

Workshop leads:
Pierre Del Porto, AIMA/AFMA, France
Peter Watson, AIMA, USA

Claus Kropp

Manager
Lauresham Open Air Laboratory for Experimental Archaeology, Germany
c.kropp@kloster-lorsch.de

Photo: Claus Geiss

Research interests are: Early Medieval settlement archaeology, Draft cattle, (re)constructing Early Medieval agriculture, animal husbandry (incl. transhumance) and manorialism.

Ongoing Experimental Archaeological projects are:

- PhD thesis "The usage of draft-cattle in the Early Middle Ages" (Besides Experimental Archaeology, the thesis includes researching written sources as well as archaeological and archaeozoological data).
- Early Medieval Pithouse project (function, space-usage, construction details and interpretation)
- Ridge and furrow long term experiment

LEARNING FROM MIDDLE AGES? HOW ANIMAL HUSBANDRY IN A MUSEUM CONTEXT CAN HELP EDUCATE THE PUBLIC ABOUT A MORE SUSTAINABLE FUTURE

Considering climate change, factory farming, the loss of biodiversity and the recent drought in Europe and beyond, it seems justified to ask how past cultures coped with challenges in the field of agriculture and animal husbandry.

The Experimental Archaeological Open-Air Laboratory Lauresham represents a 1:1 model of a Carolingian manor (about 800 AD) and therefore opens a window in researching and imparting the Early Middle Ages. Over an area of 4.1 hectare, visitors have the chance to learn about manorialism in a vivid and accessible

way. It's a complex topic, but one that is critical for our understanding of social structures in the Early Middle Ages.

Lauresham is also a forum for ongoing experimental archaeological research. A range of primitive technologies, crafts and agricultural methods from the Early Middle Ages are researched and tested here as part of day-to-day operations.

The manor´s buildings were built on the basis of the latest archaeological evidence from settlement archaeology in southern Germany. They include residential, commercial, agricultural and storage buildings, as well as a chapel. Moreover, the various types of agricultural land (fields, pastures and gardens) and livestock here, which are all as close as possible to what you might have seen in medieval times, convey a lively picture of the day-to-day and working lives of people in the Early Middle Ages.

One of the most important projects pursued in the Open-Air Laboratory is to understand, how medieval subsistence economy and agriculture actually worked and if some aspects of it can be still of help in the 21st century. Using (re) constructed medieval farming implements and draft cattle (3 oxen and two cows), all major agricultural tasks like ploughing or harrowing are done in a more or less authentic way (animal welfare demands some changes once in a while as for example the system of harnessing the cattle). Embedded in the system of three field (crop) rotation and varying field systems like ridge and furrow, an area of almost one hectare within the laboratory is cultivated with a series of old crop

Photo 1 *(Re)constructed medieval ploughing at Lauresham with a team of oxen*

varieties of spelt, rye or emmer. Also legumes like lentils, chickpeas or flax are included in the cultivation process. All of this is scientifically monitored and therefore a professional weather station, the analysis of soil micromorphology and measuring the maximum draft power of the cattle altogether produce valuable datasets to get a better understanding on how the early medieval agricultural processes really functioned.

Putting early medieval agriculture in action, is soon becomes clear that many aspects of the medieval subsistence economy can also play a key role in a more modern context. Diversification for example, not only understood as widespread fields with different qualities but also in the sense of using a wide range of crops, legumes and vegetables in contrast to monoculture, can be seen as an effective attempt of risk minimization. The usage of draft animals within the agricultural process can also be mentioned as a valuable factor in this respect. Not only is it a very effective form of soil protection (e.g. against soil compression) but in some regions of Africa and other countries around the world today also still the most economic form of soil cultivation. In a way museums and projects like the Open-Air Laboratory can play an important role in preserving and promoting this basic cultural knowledge.

In summary, it hopefully became clear that researching past cultures and their ways of coping with the challenges of their time are definitely worthwhile and might even help creating a more sustainable future.

Photo 2 *Spelt harvest at the Lauresham Open Air Laboratory*

Workshop Summary by Peter Watson and Pierre Del Porto

The workshop was attended by 14 participants from six countries. As an introduction, the group worked in the field with a 5-year old draft horse, Ardennes type, driven by farmers Margus Väli and Reelika Narap, of the Estonian Agricultural Museum. Demonstrations and trials included a session on harnessing and hitching procedures, tillage with a one-horse walking plough and spike tooth harrow, and use of a field sled to transport tools and equipment. The first CIMA Ploughing Championship took place spontaneously, when participants starting making and perfecting furrows in a section of land next to the museum's rye field.

Photo 1 *Fieldwork. Photo by Pierre Del Porto*

Following the fieldwork, the key workshop topics were addressed by presenters:

- How animal husbandry in a museum context can help us educate the public about a more sustainable future – an example from Lorsch (Germany)
- Animals at the C. R. Jakobson Farm Museum – Kadi Ruumet, C. R. Jakobson Farm Museum, Estonia
- Animals at the Estonian Agricultural Museum – Margus Väli & Reelika Närap, Estonian Agricultural Museum, Estonia

Workshop participants from Norway, Turkey, USA and France expanded on these topics by sharing information about farm animal use at their respective outdoor and living history farm museums. Their descriptions focused on the use of draft horses and oxen at European open air museums interpreting the early Middle Ages, on a U.S. living history farm presenting early 20th century agriculture and lifestyle, and in various exhibits about contemporary farming. Participants also shared 'best practices' and advice related to the presentation and interpretation of poultry, pigs, protection dogs, sheep, rabbits and bees.

Themes that emerged from the discussion included:

- Importance of animals in teaching visitors about historical farming systems and in present-day sustainable agriculture.
- Value of animals in attracting visitors to museums, and in the development of museum education programs for both children and adults.
- How live animals and their products can contribute to a museums' income while giving visitors opportunities to "take home" their museum experience by purchasing eggs, wool, dairy products, sausages, etc. -- and/or by creating memories of experiences such as riding in a horse drawn carriage, milking a goat, learning how to spin wool, etc.
- The essential work of professional networking and resource management, as illustrated and advanced by the ground-breaking AIMA project to survey and establish an inventory of livestock breeds, numbers and uses preserved in museums. Plans to extend and expand the survey "Live Animals in Museums" through the AIMA website were described by the project's leader, Pierre Del Porto. Presently, 36 member institutions have participated in the survey.
- During the afternoon segment of the workshop, a roundtable discussion identified some of the needs, values and opportunities associated with the use of live animals within museums:
- Animals are essential to human survival, furnishing us with resources needed in the production of food, clothing and shelter, while contributing irreplaceable elements and energy to the ecosystems on which all life depends. As agricultural museums where live animals are used and interpreted, we have the opportunity - and arguably the responsibility - to educate the public about systems of animal production, telling the story of their importance to human life past and present.
- One of the challenges of Interpreting livestock production is understanding and explaining how farmers respond to changes in industrial and consumer uses of livestock products -- meat, milk, fibre, hide, manure, etc. Although certain production capacities may change through improved breeds, feeds, veterinary care, and other factors, farm animals are still producing the basic

products they have always been known for. On the consumer end, however, ever-changing processing techniques have responded to, and in some instances created, new and expanded uses for animal products.

- Through the maintenance and conservation of older livestock breeds, agricultural museums contribute the work of preserving native genetics, which stands to strengthen breed diversity and enable production goals. For example the Estonian native cattle breed produces a very useful 5.5% butterfat rate compared to the average 4.2% with "modern selected breeds."

Animals maintained in open air museums, living history farms and parks not only bring life to the architectural and cultural landscapes that draw visitors, but are useful in demonstrating how farmers have, and still can, maintain and utilize difficult areas such as slopes, wet soils or swamps without hand or mechanized means.

- Museums with farm animals or livestock programs must be prepared to work with visitors who may be unfamiliar with livestock management needs, safety issues, and animal behaviour. Farmers, interpreters and museum staff require training if they are to be successful in their roles introducing the public to the realities of farming and farm life. Signage is helpful, but not always effective.
- Animals kept in museum or educational settings must be carefully chosen and monitored to ensure that they are able to function within the museum's environment. Animals with aggressive traits, behavioural issues, health problems or other characteristics that require intensive management are not good candidates for interpretive programs.
- Animal care must be "impeccable" in a museum setting, so that the goals of the interpretative program are not compromised by public concern about the way animals are kept or used. Animals should be kept in accordance with animal welfare rules/standards as they apply to animal housing, pasturing, veterinary care, feeding and watering routines, and more. It is important for museum staff to be familiar with these standards and work to ensure that animals receive (and are perceived by the public to receive) excellent care at all times, this to avoid any critics.
- Presenting animals in museums can be costly due to scale and conditions affecting the way animals are raised. Increasing the number of animals to turn production profits requires an increase of staff time and resources, which may reduce the staffing available for educational programs. Maintaining the highest standards of animal care remains paramount, regardless of the size of the operation.
- Recent occurrences of Swine Flu, Avian Flu, and tracheal mites' infestations

in bee colonies, are reminders of the health threats faced by working farms as well as museum farms. Sound husbandry practices, preventive care systems, regular veterinary visits and vaccination programs, and knowledge of current public and animal health care issues are the keys to a sound program.

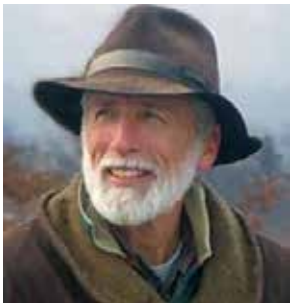
Animals seen at our agricultural museums and historical farms play a key role in the work of bringing history to life for today's visitors and adding to the values that our museums hold for the communities where we live. Through interactive programs and exhibits for schools, demonstrations and competitions at regional and local country fairs, resources provided to breed conservation associations, and through the preservation of barns, pastures and livestock production systems, animals help our museums enrich our communities, strengthen education systems, and help ensure the futures of our rural landscapes.

Their importance is not limited to the value they bring to our exhibits, interpretive programs and traditional collections. Not only do they provide power to pull our ploughs; milk, meat and eggs fill our kitchens; fibre to spin, weave and dye; and manure for our gardens, but they connect our museums age-old production systems -- and to the ways they have changed. By helping us conserve breeds and accurately present the skills, practices and processes associated with their care and use, they position our museums contribute significantly to the knowledge and skill base that must used to feed the world's ever-growing population -- a world that must be fed by fewer, far more able, farmers.

Animals give and keep life in our museums and are important actors of the rural heritage we share.

Peter Watson

pwatson@comcast.net



Pete has 45 years of professional experience in agricultural education and resource development/ management, beginning his career as an international farm extension specialist and technical writer before becoming Administrator of Howell Living History Farm in 1984. During the last 33 years, he has overseen the development of the farm from a proposed county park to a fully operational living history site that welcomes more than 65,000 annual visitors, including many who use the farm's heritage breeds, seeds and conservation methods as a resource for organic and sustainable farm research and training.

Currently he is chair of the New Jersey Living History Advisory Council, treasurer of the Advocates for New Jersey History and a board and executive committee member of the International Association of Agricultural Museums (AIMA). He is Past President of the Association for Living, History Farm and Agricultural Museums [ALHFAM], and has served on the boards of the New Jersey Museum of Agriculture, the New Jersey Department of Agriculture's Council on Agricultural Tourism, and the Friends of Howell Farm. He works actively with the National and New Jersey Returned Peace Corps Volunteer Association to share the resources of historical farms and agricultural museums with organizations committed to developing and teaching organic and sustainable farming methods worldwide.

Pierre Del Porto

pierre.delporto@gmail.com

Agronomist Eng. (ENITA- AgroSup Dijon, France 1970)

Specialized in animal science, livestock production and products, communication in agriculture. Member of the French Academy of Agriculture (2009)

Treasurer of AIMA

Member of the Board of Directors Rural museum Desaignes – Ardèche France

Executive Secretary of AEHA (Association for studies on history of agriculture, France)

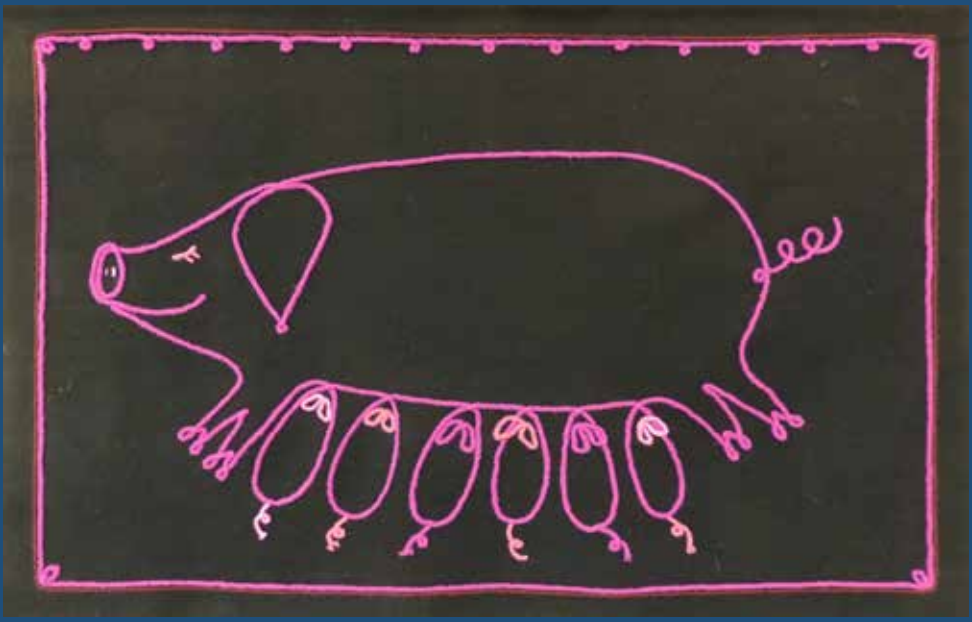
President of AFMA (Federation of museums of agriculture and rural heritage, France) since 2008

Publications on French and European animal production, genetics, history of agriculture and personalities.

Workshop 6

Agriculture and Rural Life in Art

Workshop Lead:
Surajit Sarkar, Centre for Community Knowledge,
Ambedkar University, Delhi, India



Hanna Ignatowicz

Art historian
Section of Rural History and Food Industry
National Museum of Agriculture and Food Industry in Szreniawa, Poland
h.ignatowicz@muzeum-szreniawa.pl

PAINTINGS FROM THE ART COLLECTION OF THE NATIONAL MUSEUM OF AGRICULTURE IN SZRENIAWA AS TRACES OF MEMORY OF LIFE OF FORMER POLISH RURAL DWELLERS

Since 1964 Szreniawa Museum has gradually assembled an art collection of approximately 1000 objects belonging to such fields of visual arts as painting, drawing, graphics, sculpture and artistic textiles.

The authors, inspired by the local folklore, present the everyday work, landscape of the Polish countryside and the rich customs of its inhabitants. For us, such representations are not only the source of aesthetic sensations, but also a valuable iconographic source, which allows us to learn about the everyday life and culture of the peasantry in a given historical period. It should be emphasised from the outset, that the mythical image of the countryside that functions in the collective

imagination has been duplicated in literature and in visual arts. This image presents peasants as healthy, strong people living in harmony with nature, who are attached to traditional values such as hard work, respect for land, family and the faith in God. This idyllic image of countryside shows the peasants' existence as simple and noble, virtuous and aligned with the rhythm of nature and the calendar of church holidays.

I would like to briefly present thirteen works of Polish artists from the collection of Szreniawa Museum, which, for the modern recipients, are a kind of documentary showing the old agriculture, everyday work at home and on the farm as well as the disappearing countryside landscape. These paintings had been created over the period of one hundred years (from the early 20th century to the beginning of the 21st century).

The first theme concentrates on working the land. For the artists of the late 19th century the sacred duty of land cultivation and harvest were a new source of inspiration. Working the land using farm animals, manual sowing, sickle and scythe harvest, harvest of root crops (e.g. potato harvest) were the most frequently featured motifs. The artists often painted outdoors, looking at the man's struggle against the element of earth.

The painting "Ploughing with oxen" ("Orka wołami") by Władysław Jarocki from the beginning of the 20th century shows bulky silhouettes of oxen pulling an arable tool. The artist pictured three pairs of draught animals with double yokes on their necks. The cattle, tall at the withers, with long, sword-shaped horns, thin necks and of various coloration, occupy almost the entire painting. The man is less important here and remains in the background. The painter's main goal was to depict the labour of farm animals. The scene was probably painted in the Hucul region, located in the western part of modern Ukraine. It introduces the topic of ploughing with the help of draught animals and presents an interesting issue of the oxen harness.

The 1982 paining "Ploughing 1951" ("Orka 1951") by Olgierd Tomaszewski presents a different approach to working the land. It is the apotheosis of mechanized agriculture with the tractor as its icon. It replaced the cattle and horses and allowed the work to be less strenuous, last longer and give better results, according to the principle: deep ploughing - better yields. The foreground is occupied by the famous Lanz Bulldog tractor produced in 1921-60 in Germany. The plough is attached to its back; however, it is barely visible as it is overshadowed by the machine. High haystacks are visible in the background. This suggests that it is the time of the so-called post-harvest ploughing.

The watercolour "Harrowing" ("Bronowanie"" from the 1940s by Karol Kossak shows three horses pulling a harrow. The horses have a scrubbing harness with

a wide breastplate whose drawbelts are attached to the wooden harrow that has iron tines. The working harrow stirs up clouds of dust according to the old Polish proverb "Dusty harrowing foretells an abundant harvest" ("Kiedy się za broną kurzy, będzie urodzaj duży"). Behind it, there is a farmer holding a whip. Red ribbons are visible at the bridle and the whip. According to the folklore beliefs they were a kind of "amulet" to deter evil spirits. The animals, that for centuries have played an important role in agriculture as a tractive force, take the canter stage here. In the foreground there is a horse with a grey coat, and the two behind it are chestnuts. The picture is a perfect anatomic imitation of nature and the horses' beauty is overwhelming. Karol Kossak was an artist from a famous clan of painters. Presentation of scenes involving horses (e.g. battle and genre scenes, etc.) was his passion.

The 1930s woodcut "The Harvesters" ("Żeńcy") by Władysław Żurawski reminds of the farmer's hardship related to the harvest time before the arrival of the "combine-harvester era". It shows young, sturdy rural women. They use sickles to cut grain crops and tie them into bundles. Their work is overseen by a manor keeper. A cart loaded with grain and the front of a manor house are visible in the background. Up to the 19th century grain crops were harvested with a sickle, then a scythe, followed by harvesters and horse mowers. The sickle is one of the oldest agricultural tools - it was already known in the Neolithic period, when flint sickles were used during harvest.

Figure 1

A scythe, whose form is the result of the sickle evolution, is another important tool used during harvest. This theme is illustrated by the 1980s woodcut by Kazimierz Szwainowski (fig. 1). Its main character is a harvester. He uses both hands to hold a scythe, which has an additional handlebar which aided gathering of the cut crops. A sharpening stone is visible behind his belt. When wetted, it was used to sharpen the scythe. In the background there are women who tie crops into bundles. And above it all - the scorching August sun.

Field work was another theme present in paintings.

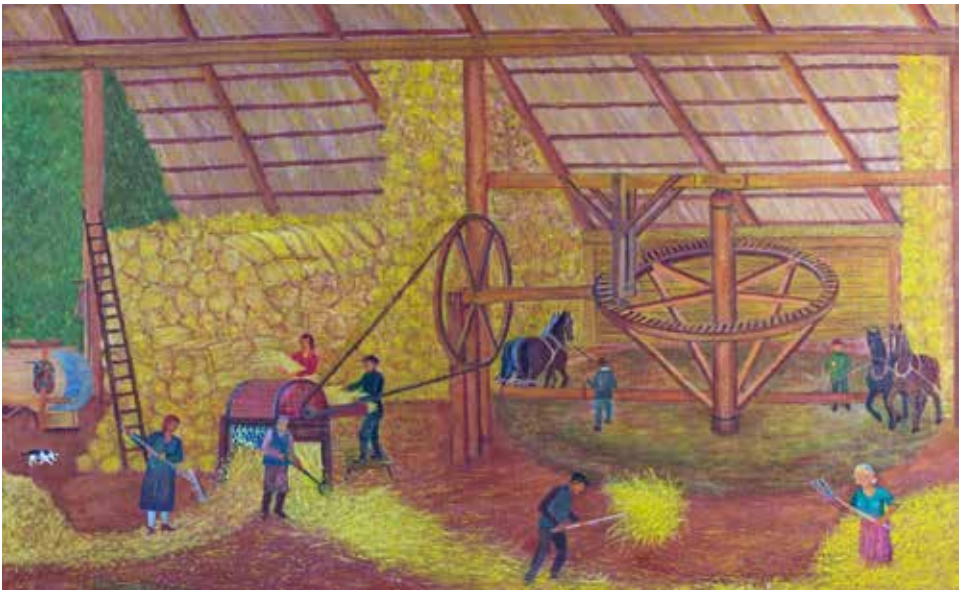


Figure 2

The paining "Threshing machine" ("Młockarnia") by Józef Urbanowicz from 1981 presents the former threshing process (fig. 2). The artists depict the inside of a barn with a large mechanism of the upper horse-mill. It is moved by two pairs of horses and the transmission belt powers the threshing machine. Bundles of grain crops are kept to the left. A woman cuts them and gives to the man who inserts them into the threshing machine. The other workers use forks to move the threshed straw to an indicated place. The left part of the painting shows an aerial separator – another piece of equipment that has become a thing of the past. It was used to remove chaff from the grain.

A 1940s watercolour by Karol Kossak shows wood gathering for the winter season. A sledge loaded with logs of wood is pulled by a pair of horses. They have a scrubbing harness. Red ribbons are visible at the bridle and the driver's whip which, according to the folklore beliefs, could deter evil spirits. The landscape is covered with a thick layer of snow. The picture theme gives an opportunity to raise the issue of winter farm work. It included taking wood to sawmills, which was an additional source of income for the farm. The peasants could get a variety of wood from the forests – they used it for construction, making farming equipment, furniture and firewood.

Figure 3

Spinning and weaving was a typical female work. This theme is shown on "Girl at the distaff" ("Dziewczyna przy przęślicy"), a 1921 watercolour by Aleksander Augustynowicz (fig. 3). The artist portrayed a young girl sitting sideways on a bench by the stove. She spins the thread by hand drawing it from the distaff that has a long pole that holds the unspun wool and a horizontal board to

sit on. The girl wears festive clothes – a white shirt decorated with Hutsul embroidery, a dark skirt and a red scarf. The distaff and the spinning reel were an indispensable piece of equipment in every household and a girl who was not a great spinner was considered a poor candidate for a wife.

"The Washerwomen" ("Praczki"), a 1951 pastel by Władysław Mikos, shows two women at the river. They spread dirty laundry on a low bench and then hit it with a stick called kijanka. This is the oldest laundry tool in Poland and other European countries. The kijankas could be heavy or light, they also had different shapes. In rural areas they were used to wash thicker fabrics until the 1960s.

The third thematic section is landscape painting, which flourished in Poland at the turn of the 19th and 20th centuries. The artists' aim was to introduce nature and the native landscape with its simplicity and beauty in their art. The aspect of regional territorial differentiation played an important role in the concept of realistic Polish landscape painting. It determined the diversity of painted landscapes and their meaning.

Emil Krchy's "Apiary" ("Pasieka") painting of 1935 shows a picturesque landscape with log hives covered with broad straw roofs. A bee colony lives in a countryside garden full of flowers and trees surrounded by a leaning fence. Next to the five vertical logs containing beehives, the so-called stands, there is a frame beehive, which indicates the next stage in the evolution of beekeeping: from wild beekeeping, through keeping bees in the garden, to commercial beekeeping. The picturesque landscape is an example of how the farms and the life of the rural dwellers have changed.

The 1960s painting "After the Harvest" ("Po żniwach") by Dariusz Wąsowicz also documents the disappearing rural landscape. He showed a landscape with a varied terrain, where the main feature are reaped fields and bundles of crop stacked in the so-called mendles. Stacking a dozen or so bundles in vertical heaps, close to one another, protected harvested grains from rain and facilitated their subsequent transportation. A cart loaded with grain crops heading towards a barn to be threshed can be seen in a distance. In the post-harvest landscape, the bundles, a symbol of the farmer's centuries of labour, have been replaced by the straw bales, which illustrate changes that have taken place in the countryside as a result of farming mechanization.

"The Manor" ("Folwark") - the 1949 painting by Stanisław Czajkowski exudes the lyrical atmosphere and tranquillity of the passing summer. This is a landscape that can be seen only in open air museums. There are low huts with whitewashed walls and thatched roofs without chimneys (the so-called hen huts or smoke huts). Buildings are surrounded by tall trees. Storks nest in between their strong branches. Those birds have become a well-recognized

element of the Polish countryside and according to folk tradition they were the symbol of spring, fertility and happiness. Next, there is a cart with a wooden chest and in the distance - silhouettes of two horses walking in the treadmill.

Figure 4

The last painting, "Old Windmill in Dębe near Czarnków" ("Stary wiatrak w Dębe k. Czarnkowa") by Eugeniusz Ćwirlej painted around 2000 shows a rundown windmill on a small hill (fig. 4). The artist documents the disappearing landscape of Wielkopolska by showing details of the destroyed formwork of walls and damaged blades. This type of windmill called koźlak was introduced in Wielkopolska in the 14th century. The building was set on a shaft and a vertical pole and a drawbar was used to turn its blades towards the wind. The landscape with the windmill also has a symbolic dimension – it captures the transitory quality of life, because the

windmill is like a man: it is created, it provides food, ages and goes into oblivion.

The cultural landscape of rural areas is the outcome work of many generations living in a particular territory. Places are needed to keep the cultural memory – roads, balks, ploughed land, fields bearing crops, bundles of crop, churches, chapels, timbered farmhouses with thatched roofs, tools, food, festivals, clothes, dance – all of them create the collective memory. The sense of belonging to a social group or a nation and participation in its culture are closely linked with the awareness of common past. The cultural landscape of rural areas is in decline, therefore nowadays the Museum plays an important role – our exhibits save traces of memory of former villages and support a sense of national and regional identity.

Workshop Summary by Surajit Sarkar

The workshop discussions began from the fact that because so much of the visible activity of museums is "front of house" (i.e. where the public visit), the many deeper and continuing creative links between these bodies and the wider world can easily be overlooked. By recognising the collections held in Agricultural Museums and the knowledge and ideas they prompt as a key resource, the objective of the workshop was to highlight the ability of agricultural museums and their holdings to educate individuals and groups, create networks to stimulate dialogue, inspire creativity in their audiences, and enhance opportunities for individual and collective fulfilment.

Today we are at a time when for most of us, direct interaction and engagement with land has reduced significantly. Consequently, each succeeding generation recognises less and less the moods and textures of the land and all that grows from it, both flora and fauna. Yet simultaneously, we are in a situation where this ignorance allows narrow interests to take control over large sections of the land surface, so creating a critical moment for the planet's ability to sustain its residents in a healthy manner. Visual artists, both now and in the past have used ideas, images and processes related to farming, so, how does making 'art' about agriculture help?

The process of 'making' is recognised as such, by people aware that their lives are less full, because of their alienation from the practices of the material culture of a tradition. "Making art" is then "the imagination pressing back against the pressure of reality. It seems [...] to have something to do with our self-preservation; and that, no doubt, is why the expression of it, the sound of its words, helps us to live our lives." (Wallace Stevens 1941)

Art, as a sharing of ideas and experiences, helps us understand who we are and the world we inhabit. In the traditional farms around the world, and among the living 'makers' of human scale farms of the global South, there are makers everywhere, only they are not called 'makers'. These unacknowledged creators, as artisans of the landscape, serve multiple functions in rural communities – as purveyors of culture, as historians of craft and tradition, and increasingly as innovators integral to successful revitalization of the land. Art can be a process of researching and modelling different realities or become a process of engagement of individuals and communities in dialogue with the places around them, in a manner that intersects with the way that farmers engage with and cultivate that same landscape to create our food.

Drawing from such experiences, the presentations at the Workshop began with a tour through the ongoing exhibition *A Long Field* by **Estonian glass artist Tiina Sarapuu**, where memories of farming and a rural past were made visible through the interplay of form, colour and the transparency of glass. It was followed by a presentation by Hanna Ignatowicz from the National Museum of Agriculture and Food Industry in Szreniawa, Poland, of a selection of paintings on farming and rural life in Poland dating from the late 19th century. It was striking how the oil paintings and water colours painted over the century, portray the rural world not as a place of wonder, but of labour, and effectively convey a sense of experience, impression and memory. These are noticeable in the paintings from the 1980s, when the sense of change was strongest and with it came the remembering of a tradition.

Moving beyond memory, art can also be used to reengage with tradition. Performances along rural and agricultural themes can involve the visitors, local residents and the artist together in order to achieve something grand, unusual and special. The presentation of a solo installation by **Kaarel Kütas, installation artist** from Estonia, showed how objects and artefacts, costumes and on-site interactions, could become powerful and evocative way of provoking public discussion. Shaking us into wonder, unease and reflection, the easy acceptance of the everyday rural world using art as provocation, is broken "to decrease the nostalgic, romantic and utopian picture of country life that is divorced from reality."

Artist Kaarel Kütas' performance "It goes as you pull it" with himself as a ploughman

The subversions and layered story telling possible through art emerge in his scythe installation, where the multiple logos covering the artefact, became a striking way of reminding the participants that the idea of how direct human labour in agriculture has been superseded by indirect labour through machines. This subversion of the logo from brand to indicator of human-separation from food and farm, led to a discussion on how Agricultural Museums describes human activities on a farm, that are now replaced by machine.

The post it notes shown placed on the Estonian Agricultural Museum Map suggest the idea of companies that have taken over different areas of the museums agricultural interests – from multinationals like John Deere for tractors, or Cuisinart for food processers, to companies like Vali for Milk and Leibur for Bread, giving rise to a revised map of the Agricultural Museum as marker of industrial takeover of various facets of human – land interaction.

The workshop was then shown an **animation film INSTINKT made by Rao Heidmets**, describing what happens when the Maker loses control over his creation and it starts to obey its own will. This imaginative flashback about life in on earth before times as we know it brought into the discussion the theme of a pagan (earth belief) and nomadic pasts, where life is organised in ways different from today. A discussion of such beliefs and oral lore and legend, especially in rural settings and about the challenges of farming led to a story telling session by Surajit Sarkar. A folk tale from India, addressing the tensions between farms and forests in the pre-machine age, showed similar values and associations. For example, Nature, represented through gigantic and simple-minded forest dwellers is seen as being true to their word, while humans overcome their physical limitations by being clever, smart and sophisticated. An exploration of these stories showed how folk lore of a rural past from Estonia and India were similar in describing the fears and their resolution, though the specific details were obviously different to take care of the differing ecologies.

These imaginative explorations of the themes of history and memory of land, folklore and memories led to discussions of the pasts and future of farming between participating artists and community members in both countries. Recounting these examples of intervention with the rural arts, the discussion moved on to the re-interpretation of tradition. Participants agreed that in many parts of the world, human powered, artisanal and sustainable agricultural practices are becoming machine based, with the consequence that fewer humans now have with direct connection to the land.

Keeping in mind that similar changes are occurring in different degrees in almost every country of the world, the Art and Agriculture workshop explored a range of artistic endeavours to develop conversation and exchange about agricultural and rural life. These could range from increasing public awareness and knowledge about food production and farming, to sharing and discussing the contexts of

decisions for the future openly and commonly. But mostly it was about enabling people to take an active part in processing the rural experience – through art + agriculture, to create situations that bring together the artist's vision, the farming community concerns and the museum visitors sense of exploration.

The workshop concluded with a film clip, the **"House of Monica Loro" from the wide river valleys of Assam in India**. Asked to describe her house, and the interweaving of its materials with local farming ecologies and material use, the subject took the participants through a twenty-minute walk of her house. In her own setting, this rural person became a professional video anchor, as she walked the viewers about her house. We discovered how almost every part of the house was constructed with bamboo, local clay and materials; the use of stored tools and crafts were demonstrated and techniques explained, and in this way, their place marked in the everyday life of a rice farmer.

By moving between visual arts, digital media and on-site performance, the workshop demonstrated how art and artists can introduce themes of challenges and concerns, of rural poverty, ecological crisis or terms of trade, that can help rural communities, participating artists and visitors to explore with each other ways to look at their lives and communities from a new perspective.

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5. Surajit Sarkar http://jatantrust.org/caravan.html

Surajit Sarkar

surajit.cck@aud.ac.in

Surajit Sarkar is Associate Professor and Coordinator at the Centre for Community Knowledge, Ambedkar University, Dehli. He is a founding member of a rural organisation in Central India engaged in documenting and confirming the histories and knowledge traditions of rural Indian communities.

Plenary session

Pamela Warhurst

Chair and Founding Member of Incredible Edible

Pamela Warhurst CBE is a British community leader, activist and environment worker best known for founding the voluntary gardening initiative Incredible Edible. Warhurst is currently Chair of Incredible Edible and was formerly Chair of Forestry Commission Great Britain, which is the largest land management commission in the country. She is also a Fellow of the Royal Society of Arts & Manufacturing and is an Honorary Fellow of Landscape Institute. She previously served as a member of the Board of Natural England.

RETHINKING PROSPERITY THROUGH EDIBLE LANDSCAPES

For ten years residents of an English market town Todmorden have been putting local food at the centre of their lives. Planting food to share in the centre of town. Passing on the Lost Arts of growing and cooking food seasonally. Spending more of their money at the local markets and small food shops rather than a quick dash to the supermarket. Small actions with huge implications. Positive. Inclusive. Simple.

Incredible Edible aims to get people thinking about, and involved in, local food production. Residents are encouraged to turn their neighbourhood into 'edible public spaces' by growing food wherever possible - including car parks, pubs, pavements, and schools.

While the project initially took a guerrilla-gardening approach, they soon began approaching public and private sector landowners for permission to plant on unused grounds.

The Incredible Edible team have since worked with Calderdale Council to make it easier for people and organisations to plant on council owned land, and have formed partnerships with public institutions such as schools and transport providers. Every school in Todmorden is now involved in the movement.

Challenging the notions of what people can physically create in the public realm, this project has no formal membership and all residents are encouraged to participate as and when they can. While Incredible Edible is led by a loose coalition of residents, the team has become a voice for the sustainable food movement, giving talks and visiting organisations across the UK to inspire different ways of thinking about food.

The Incredible Edible mode has spread and grown not only in the UK (see Fig. 1) but all over the world.

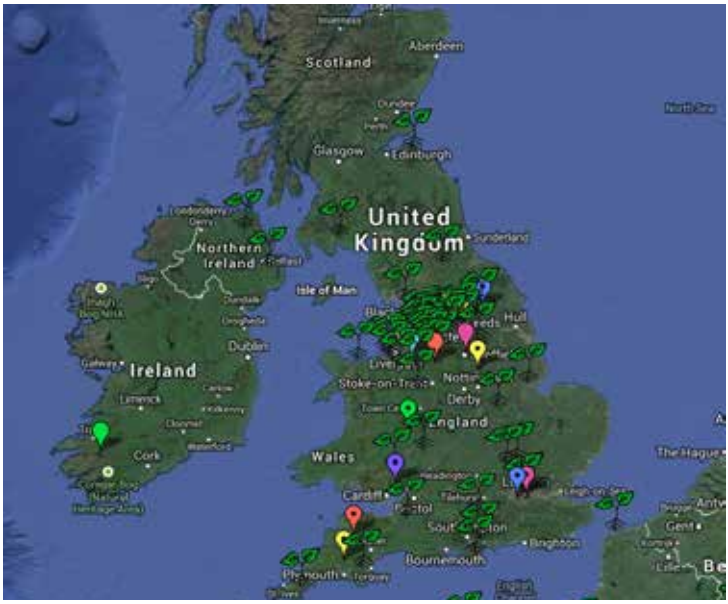

Fig. 1 *One hundred and twenty plus Incredible Edible initiatives in the UK*

For more information please visit

www.incredibleedible.org.uk

https://www.ted.com/talks/pam_warhurst_how_we_can_eat_our_landscapes/

https://www.theguardian.com/world/2018/may/09/incredible-edible-yorkshire-towns-food-growing-scheme-takes-root-worldwide

https://www.youtube.com/watch?v=nzNtZLKMBew&feature=youtu.be

Krista Kulderknup

One of the leaders of Organic Estonia
http://www.organicestonia.ee

info@organicestonia.ee

ORGANIC ESTONIA – WHY, FOR WHOM AND WHEN?

As Estonians we have managed to preserve the know-how of our forefathers, our rich traditional culture. On a grassroots level our way of thinking and our values are organic anyway. The organic way of life benefits everyone, it offers the best chance for a successful future, the key to ensuring the health and wellbeing of generations to come.

It is Estonia's trump card to show that as a small country we do things differently – in a caring and sustainable manner.

The idea of Organic Estonia won the grant of the Development Idea competition organised by the Estonian Development Fund in 2015. Starting out as a community initiative, it has now transformed into a complex national programme. Its objectives include increasing annual organic export to 100 million euros, creating 800 agricultural jobs in rural areas, and declaring 51 percent of the country's area officially organic.

Organic Estonia © Allan Leppikson

Organic is the green way of thinking and living, caring for nature and people, considering the balance of the environment, giving up what pollutes and destroys. It is a long-term and responsible attitude, in order to leave the next generations with a dignified life and a clean natural environment to enjoy.

Cameron Archer

Chair, Belgenny Farm Trust
Conjoint Professor Tom Farrell Institute University of Newcastle
6579aca@gmail.com

Dr Cameron Archer grew up on a grazing property on the Southern Tablelands of NSW, Australia and has spent his career in agriculture, initially in research and extension but for most of it at Tocal College, Paterson in the Hunter Valley, a vocational college specialising in agriculture. He was Principal of the College from 1987 to 2015, a period of significant growth and development of the institution.

The College is on the historic Tocal property which still includes the original homestead and farm buildings dating from 1830. He spent 28 years working on the conservation of the site and opening it to the public. As a result of this experience Cameron was appointed as Chair of the Belgenny Farm Agricultural Heritage Centre Trust to oversee the operation of Australia's oldest assemblage of farm buildings.

Dr Archer has degrees in agriculture, education and completed a PhD on the environmental history of the Paterson Valley. He has served and continues to serve on a number of local state and national boards relating to agricultural education, regional development and heritage conservation. Cameron has been a long-time member of the Paterson Historical Society.

He continues to research and write about the Paterson Valley, agricultural history and the Hunter Region and is often asked to contribute to local and regional initiatives.

Cameron played a key role in the creation of the Primary Industries Education Foundation Australia, a national not-for-profit company dedicated to increasing learning about Food and Fibre Production in Australian schools. He is currently Chair of the Board of that organisation.

Cameron was made a Member of the Order of Australia for services to agricultural education and heritage conservation in 2013.

A CONTRIBUTION OF BELGENNY FARM TO THE SOCIAL SUSTAINABILITY OF AUSTRALIAN AGRICULTURE

Australia is one of the most urbanised countries in the world, despite it being an enormous continent. All major population centres cling to the coast and the largest, the Newcastle-Sydney-Wollongong metropolis in New South Wales, is hemmed in by a mountain range running parallel but inland from the coast.

The majority of farming in NSW is beyond this range and the 5 million people living in this coastal locality have little opportunity to interact with, and learn about, farming. This results in a growing disconnect between the urban coastal consumers and the rural inland producers – and the food and fibre products of agriculture.

Agriculture must be environmentally, economically and socially sustainable for society to grant a social licence for agriculture to operate. Industries can lose their social licence and then struggle against over- regulation and declining demand for their products when consumers don't understand or value the production process. In the case of dairy products, for example, there is a range of alternative products available such as soymilk, almond milk and margarine.

In recognition of the disconnect between agriculture and the consumer, the Australian Government sponsored the establishment of a not-for -profit company, Primary Industries Education Foundation Australia (PIEFA) to improve learning about food and fibre production in Australian schools. This organisation is supported by primary industry organisations, the government and the education sector. PIEFA has been successful in influencing the national curriculum to include a range of references to food and fibre production to ensure elements are taught in schools.

You may ask: What this has to do with an agricultural museum?

An agricultural museum is the best place for students to learn about change and why agriculture has developed into such a high tech and capital-intensive industry. But a museum needs to be able to compare the old with the new to make that impact.

This is what Belgenny is doing.

Belgenny Farm is geographically and politically well positioned to help NSW teachers deliver food and fibre learning to redress the disconnect between urban students and the origins of their food as well as innovation and science in agricultural industries.

Belgenny Farm was part of the iconic Australian Camden Park Estate from where the Australian wool industry grew and developments in the dairy and horticultural industries took place. Belgenny Farm's locality was known as Benkennie, an Aboriginal term of the Dharwal, the traditional owners of the land. The core of the estate (400ha) remains with descendants of John and Elizabeth Macarthur, the couple who established the wool industry along with some other colonial entrepreneurs.

The adjacent land (1600ha) is held by the NSW Department of Primary Industries and houses the world class Elizabeth Macarthur Agricultural Institute and the

Belgenny Farm Heritage Centre. Belgenny Farm is operated by the Belgenny Farm Agricultural Heritage Centre Trust.

The site and a collection of items came into the possession of the NSW DPI as a suite of important colonial farm buildings but has never been primarily seen as a museum. The large corn and machinery shed was adapted to become a function centre which hosts up to 130 weddings per year; a school's program was established in association with the NSW Department of Education; and a flock of Macarthur merino sheep with a lineage going back to those of King George III of England is maintained on site.

The weddings provide the ongoing income for the Trust.

Belgenny Farm is located on the fringe of South Western Sydney which is one of Australia's fastest growing regions. The area will soon be totally surrounded by urban development.

The timber farm buildings provide an ideal setting to teach Australian colonial history and social studies but are not well suited to teach about agriculture. The schools program to date reflects this situation.

The question was then: Why is it run by a primary industries organisation?

The NSW DPI and the Belgenny Farm Trust recognise the value to primary industries of supporting community understanding of primary industries in order to maintain a social licence to operate.

The creation of a Dairy Education Centre in the former Creamery building is the first step in making Belgenny Farm a sought-after venue for school students to learn about food and fibre production.

The building chosen for the Dairy Education Centre dated from the 1820s but with many modifications along the way, making it in fact a series of three 19th century timber and iron buildings joined as one. It was a shell conveniently separated into six discrete but relatively small rooms each about the size of a car garage, as well as a skillion running along the rear of the middle four rooms. Heritage considerations meant that nothing could be done to alter the external fabric or structure.

The two-storey section of the building had operated as a creamery (1898-1932), which was a cream separating centre for milk from the Estate's dairies. The facility was driven by steam and relied upon gravity for the flow of milk and cream though the system. These facilities became redundant when farmers adopted on-farm separation and their cream was taken to a butter factory and the skim milk fed to their pigs.

Much in the Australian school curriculum is about change - so a museum has a great role to play if used in a strategic way. Belgenny Farm is a keeping place for buildings but less so for objects, so its interpretation is not driven by its collection.

It was decided to create a display which told the story of the science, technology and innovation in the dairy industry. This is an excellent fit with the building and the history of the site.

The story of wool has been well documented, but little was recorded about the 200 years of milk production on Camden Park. There were also no objects readily available which reflected the very early years of dairying.

The interpretation was planned on a linear basis and structured to relate it to changes in technology: colonial or pre-industrial revolution, industrial revolution and post-industrial revolution or the digital era. This approach enabled all the changes which occurred over the past 200 years to be highlighted.

Themes include transitions from:

- hand milking to machines to robots;
- buckets to cans to milk tankers;

- jugs to milk bottles to cartons;
- whole milk, butter and cream to the multitude of products now available;
- bark roofing to corrugated iron to colorbond;
- unpasteurised to pasteurised and homogenised;
- pitchforks to small bales to large haybales now never touched by hand;
- person power to steam to petrol/diesel to electricity;
- no records to book records to digital records and
- each cow having a name to all cows allocated a readable number and so on.

It was felt that if the display were an accurate reflection of the dairy industry, it would also be relevant to school groups, allowing teachers to customise and create targeted experiences for their students. It would also be of interest to adult groups and tourist groups in general.

The key displays or rooms are:

- Colonial era – a life-size model of a horned cow and young calf (Ayrshire), bush timber and bark-roofed cow bails and calf pen, wooden buckets and handcrafted ceramic milk settling pans
- Industrial era – a set of walks through bails and working milking equipment, milk cans, milk bottles
- Digital era – a life size milkable poll cow (Friesian) with no calf, digital tag, table of contemporary products, videos of robotic dairy
- Science room – model of a cow, bale of hay, milk separator, posters on milk and its composition.

The physical displays are supported by:

- Plain English display boards
- Continuous loop videos, created specifically for the centre
- Trained guides who assist with visits.
- Research involved to set up the display involved:
- History of agriculture at Camden Park and dairy industry in general

- Oral history of all those people who worked on Camden Park
- Seeking old film clips showing dairy practices in the mid-20th century
- History of science, technology and innovation
- Medical and veterinary science
- Curriculum research across a range of disciplines.

Expertise was sought in a wide range of disciplines including archaeology, industrial technology, agriculture, food technology, architecture, family history, Australian history, 3D technology to interpret the building, mural painter, digital applications including creation of a 3D journey through the building.

The focus is for the displays being as hands on as possible. School students can touch, feel, hear, lift and interact with objects. The milkable cow is able to be milked and it is programmed to bellow on a regular basis. The operating milking machines function as they would in a normal dairy, so the pulsating suction of the cups can be experienced.

Supporting resources on the internet include:

- Teaching units written for each of the NSW primary school stages and addressing outcomes from the Science and Technology, Geography and History syllabuses.
- All the display boards
- All the videos accessible through YouTube
- Images and diagrams about the site and the dairy production process
- An interactive timeline
- 3D online virtual tour – to allow more distant schools to use the units of work.

The future

It is early days for assessing the Centre's attractiveness for school group visits but the results to date are promising. The building can cater for a half a class (15-20) so the other half of the group needs to be undertaking a separate learning activity. To this end, the adjacent Belgenny Cottage will be adapted to present more interactive displays and activities along the same theme of change over time in a domestic yet rural context.

The idea of the Centre being used for teacher training is also being considered. The Centre's reach may thus be greater, as not all schools can afford the cost of a bus visit to Belgenny Farm.

The Centre will provide a special service to a very large potential audience. Australian agricultural production needs to be understood and well regarded by the community. If this is the case into the future, then it will be socially sustainable in the long term. If not, it will have to work hard to maintain the confidence of the community.

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Virtual tour of the site

http://3dinsights.com.au/viewer/belgenny_farm/

Anne Jorunn Frøyen
Curator NMF, Jaermuseet, Norway
ajf@jaermuseet.no

HOW TO INFLUENCE PUBLIC OPINION ABOUT AGRICULTURE: BEST PRACTICE IN EXHIBITION-MAKING AT JAERMUSEET, NORWAY

This article gives a short introduction to the exhibition background and philosophy at Jaermuseet called Learning by Doing that opened on 27 March 2017.

In this rather small region on the south-west coast of Norway, called Jæren, farmers specialized in livestock, and produced milk and meat. After WWRII ensilaging the grass became common. In the museum the process of cutting and harvesting the grass by using a chopper forage harvester and handling the silage by using an electrically driven hoist grab may be explored by visitors. This grab was invented and produced locally in the late 1950s. The silage is green plastic balls, but it works for children using this technology.

Photo 1: *Steinar Pettersen/Jærmuseet*

In the 1970' nutrients from both manure and ensilage were leaking into rivers and lakes, causing pollution and conflicts. As a result, the number of animals per square meter was restricted. In these days the regulations will be reviewed due to EU 'Water Framework Directive (WFD)', and the farmers must adjust. Our museum wanted to design an exhibition to make visitors aware of the dilemmas following the WFD and start discussions on modern agriculture and pollution. How to make such a theme interactive, and make an exhibition on this rather difficult theme with young people as a target group? The museum decided to take a stand, suggesting that by producing biofuel farmers would be able to handle their manure, and produce both a better fertilizer and biogas (methane).

Interactive stations illustrate the amounts of manure produced in the area, and make visitors compete on how to make the factory work most efficient. They can choose waste from agriculture, private housing and industry. Plastic, metal, paper or glass give trouble, and the factory must close down. By introducing problems of today into the museum, we are able to introduce discussions and some of the visitors certainly reflect on how this rather polluting agriculture is a result of historical causes. The exhibition demonstrates how agriculture can use manure and food waste to produce renewable energy and valuable fertilizer.

Photo 2 *Students are introduced to how biofuel works and might be used. Photo: Jærmuseet*

Photo 3 *A student decides what food she will serve the bacteria producing biofuel. Photo: Jærmuseet*

Photo 4 *The bacteria are responding on the food and other conditions they are given, and students might learn from it and try other choices next time. Photo: Jærmuseet*

Photo 5 *Students doing math and calculating the volume of manure produced yearly by the cows in the region. Photo: Jærmuseet*

As part of their school program children participate in the of harvesting the hey and drying it for the winter time. They are learning by doing.

Photo 6: *Steinar Pettersen/Jærmuseet*

Jærmuseet is trying to use the same pedagogical principle for the indoor exhibitions as well but it is a challenge to design and build such exhibitions.

Edouard de Laubrie

Head of the Agricultural and Food Department
National Museum of Civilisations of Europe and the Mediterranean (MuCEM) in Marseille, France
Member of European Museum Academy pool of experts
edouard.de-laubrie@mucem.org

THE PROJECT 'PORTRAITS OF PLAYERS OF RURAL AND MARITIME AREAS'

Since 2014, the project "Portraits of Players of Rural and Maritime Areas" (Portraits d'Acteurs des Territoires ruraux et maritimes – PATREM) is an association of sixth-form students from the Provence-Alpes-Côte d'Azur region (south-eastern France, along the Mediterranean) and their teachers with regional partners: (1) ethnographic museums in the region, (2) the National Museum of Civilisations of Europe and the Mediterranean (Mucem) in Marseille, (3) professionals working in agriculture, breeding, or fishing, and also (4) artists. The project aims to make the connection with the past and the present. It takes place in 4 steps. In the first step, students discover the collections of the ethnographic museums: objects of everyday life, tools, iconography ... From these meetings emerge many questions on conservation in museums and on professional practices today. In the second step, the students learn the rudiments of the ethnological approach: how the relationship is constructed to the other? How to develop and structure an interview? In a third step, the students go on the field

with professional videographers and photographers. They conduct the interview. Back in the classroom, the students make the editing of the portraits. Finally, in a fourth phase, the students appropriated the video-portraits and create artistic transpositions with the help of professional artists. Then, video portraits by the students enter the museum's collections and can be used in exhibitions, to illustrate contemporary life that museum objects can't do.

The Context of the PATREM project

The PATREM project was created in January 2014 by the "Agriculture & Food" department of the Museum of Civilizations of Europe and the Mediterranean (Mucem) in Marseilles, France. It is a national museum of the French Ministry of Culture and Communication. The "agriculture & food" department is one of the eight collection departments of the Mucem. In 2016-2017, this is the 3rd edition of the PATREM project. The project is taking place in the Provence-Alpes-Côte-d'Azur (PACA) region, in the South-East of France.

PATREM is an educational project that combines the Mucem, a local museum in the region and an agricultural or general high school. The project aims to valorize Mucem's collection with a twofold perspective: to better know and document the existing collection from the testimony of project participants but also to build a human memory that will enrich the existing video collection. This dual approach should reflect on the constitution of a heritage collection, its study, its valuation, and associate with an approach of ethnographic and artistic original valorisation. Eventually, the participants will concretely constitute a collection of audio and visual archives, witness of our current life and which can be used as such by the future managers of the collections of the Mucem. The fact that the very foundation of the museum is based on its permanence and durability leads to an individualized perception of the rural world integrated into a universal project of constitution of a specific rural memory. The look and approach of each participant towards his informant, will reveal meaningful portraits.

PATREM unfolds over several regular and long sessions that are very different from the museum's school visit. Moreover, in the semi-permanent exhibition of Mucem, only a tiny part of the collection is valued. Most of the collection's is kept in the Conservation and Resources Center (CCR) and this building is not only a place for storing heritage but also a place to live.

Thus, the use of an ethnologist and an artist gives the project a double reality: the capture of everyday life and its cultural and artistic reinterpretation. It is a question of teaching the students how to carry out an audiovisual capture of the portrait then a montage, to initiate them to an artistic interpretation of an object and to make them discover the different modalities of a restitution.

PATREM General Guidelines

The objectives of PATREM can be summarized as follows:

- Allow students to appropriate a museum, a cultural city and offer an awareness of the major issues that cross the Mediterranean world through objects, audio and visual archive documents, ancient modern and contemporary works.
- Promote a contact of students with themes, objects, works and a place of culture. Allow them to build personal knowledge and acquire keys to understanding the Mediterranean world. Allow an opening to current issues of the cultures of the Euro-Mediterranean.
- To make the visit of the museum a privileged moment of a global educational act, integrating upstream and downstream of the visit contents built in coherence between projects approach and lessons and apprehended in an interdisciplinary dimension within the framework of the Course of Student Arts and Cultural Education (PEAC) set up by the Ministry of National Education in the link with the Ministry of Culture.
- Develop and reinforce the artistic practice of students in a framework that promotes their access to works of heritage and creation. Promote the success of all students, by fighting school dropout, by focusing on educational and participatory approaches.
- Constitute a contemporary memory of farmers on the territory of the Provence-Alpes-Côte d'Azur region, through a collection of small documentary and artistic portraits.

Conduct of PATREM

It involves introducing high school students to a discipline, ethnology and its methodology through the realization of an ethnographic survey of farmers or artisans of a territory. But it is also about allowing high school students to discover museums, collections, meet heritage professionals, and perform artistic workshops.PATREM aims to make the link between the past and the present.

Students compare the "heritage objects" and "contemporary portraits" of farmers that students realize in the school year. The collections of ethnographic museums are the foundation of a heritage that students discover: objects of everyday life, tools ...

Many issues emerge, including:

- Why does the museum keep collections of the past? In what conditions?
- What links can we build between these ancient objects and the professional practices of today?

Indeed, the interviews conducted by the students are filmed with video artists and photographers, photographs of the survey are also produced by the students and then exposed in the same way as the films.

This project takes place in several stages. In each of the high school students, we followed the same organization. A first session was held in high school, to present the project to high school students and also the two museums are the Mucem and the Museum in the region. This session, animated by the scientific staff of the two museums, aimed to explain the main lines of ethnology, a new discipline for high school students and the themes of the survey that the students were to conduct.

To do this, the students discover rudiments of the ethnological approach:

- How is constructed the relation to the other?

- How to draw up and structure an interview?

- What behaviour to have during the interview?

A survey grid was developed with the students.

Then another session consisted of a visit of the MuCem, the storage rooms by professionals of the museum and a visit to the Mediterranean Gallery, section devoted to rural worlds. A third session, conducted with the scientific staff of the two museums, was an opportunity for training in ethnographic interviews through role plays where students took turns to act as a group of potential informants. they were going to question. This session was completed by a class intervention of the artists involved in the project. This was the occasion of a meeting between artists and students, the artists have or present their work and introduce high school students to the techniques of video and photography.

Then there are the ethnological surveys themselves. They take place in the area close to high school students. In coordination with the teaching staff and the students, portraits were chosen (aromatic plants producer, master soap maker, almond producer, saffron producer, etc.). Each portrait will be based on an enriched biographical narrative of the story of the professional issues involved or social issues in the local community, for example. Whether the interviewee is elderly or not, the student-investigator will inevitably be confronted with periods of recent history that he can himself contextualize with events studied during history or civic education, for example.

Ultimately, the ideal would be to build, with the same approach, rural portraits of the entire Mediterranean area, in a contextualized, and historically dated. The portraits could then be continued and enriched over the years to highlight evolutions or breaks. Students choose themes by

group, meet the professional they interview, ask questions and perform an ethnographic interview, while filming the interview with video artists. A film is made on the farm where professionals are shown in the daily work of their work, their know-how, their gestures. The students make photographs on this occasion.

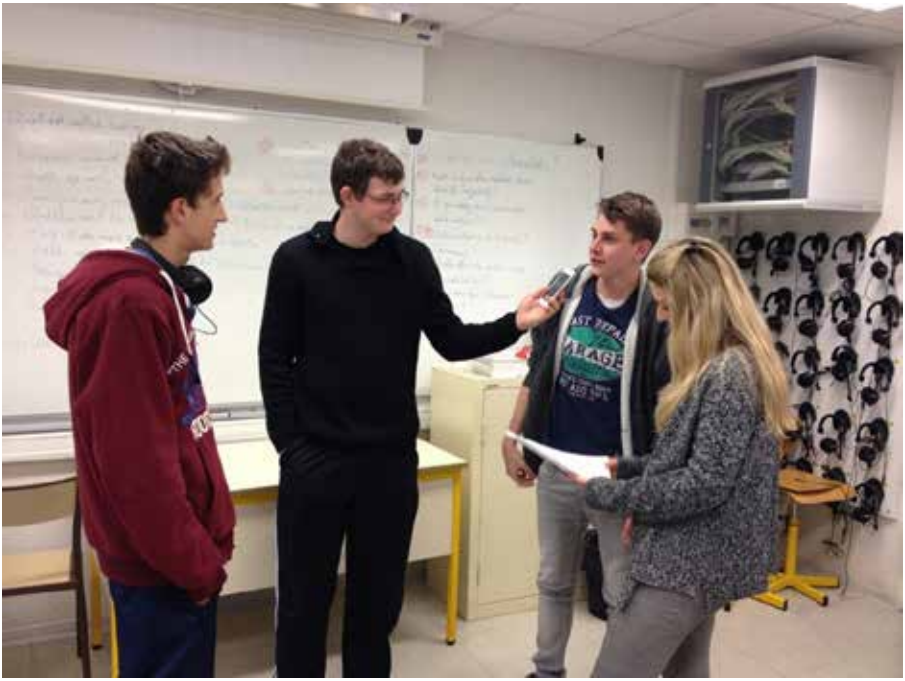


Photo 1 *Interview guide; role playing games, Students of the agricultural High School of Antibes, Upper Technician Certificate Class "landscaping" – 1st year, Cl: Guylaine Bouvÿ-Thabourey*

Photo 2 *Visit to Mucem reserves (Resource and Conservation Centre - CCR), Cl: Guylaine Bouvÿ-Thabourey*

Photo 3 *Surveys with a shepherd and goat breeder in Cuges-les-Pins. Students of the agricultural high school "Les Calanques", Marseille. Class of 1st technological "sciences and technologies of agronomy and living", Cl: Philippe Houssin*

Photo 4 *Field surveys in the Digne-les-Bains area with a mobile fruit presser. Students of 2nd Class, agricultural high school of Carmejane, Cl: L'Omnibus*

Conclusion

Therefore PATREM is rich and diverse. The results of the survey and the students' productions are exhibited in a high school session and especially during an exhibition in the territorial museum partner and Mucem in the Mediterranean Gallery. These productions are integrated into the Museum's collections.

Since 2014, the PATREM project has mobilised: 12 classes of agricultural colleges, 3 classes of professional colleges or high schools, 338 students, 16 artistic interventions, 13 interventions in cultural centres in PACA region, 14 interventions at Mucem (guided tours of reserves and permanent exhibition), 45 portraits have been made, 24 of them have been filmed.

Cozette Griffin-Kremer

AIMA/ AFMA/Centre de recherche bretonne et celtique, France
griffin.kremer@wanadoo.fr

Cozette Griffin-Kremer took her doctorate in Celtic Studies at the Centre de Recherche Bretonne et Celtique in Brest at the Université de Bretagne Occidentale and an Advanced Research Degree (DEA) in the history of technology at the École des Hautes Études en Sciences Sociales, Paris. Her published work has concentrated on the calendar system and festive events, human-bovine relations, the relationships between work and ritual, museum work for intangible heritage, and food/fodder history and techniques.

ANIMAL ENERGY IN THE "THEATRE OF AGRICULTURE" AT THE ALSACE ECOMUSEUM, FRANCE

In the framework of our AIMA congress theme, "Traditions and Change – Sustainable Futures", it is pertinent to speak of a museum that, according to the hopes of the Brundtland Commission Report[1], aims at putting even more into the environment than it takes out, thus opening a path that will underwrite its own future and ensure the involvement of the community which has nourished its objectives from the beginning.

[1] Brundtland Commission Report: Our Common Future. Report of the World Commission on Environment and Development, United Nationals, 1987, available in PDF as of 15 May 2017: http://www.exteriores.gob.es/Portal/es/PoliticaExteriorCooperacion/Desarrollosostenible/Documents/Informe%20Brundtland%20(En%20ingl%C3%A9s).pdf and definition of "sustainable development": "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"

Using clean and renewable energy is among the priorities that the United Nations and many national governments[2] set for the agricultures of the future, which are faced with producing sufficient food for our world, and one facet of such energies can be provided by animal power, most especially as it applies to smallholder farming. Hence, this article will briefly touch on a series of issues at the heart of food production and how it can be presented in museum practice: the transition to energy autonomy in both architecture and agricultures of the future; the role of biodiversity in both of the former in a museum context; the specific points of animal welfare and innovation in developing suitable equipment for cost-effective small-farming; utilizing dynamic, forward-looking traditions and skills to this end, set within museums' mission to educate and inform; cooperation with research on past, present and future developments in agricultural technologies and, finally, heightened awareness of local impact and worldwide linkage.

Where is this going on? In the "EMA", Ecomusee d'Alsace, the Alsace Ecomuseum in Ungersheim, in northeastern France, between Colmar and Mulhouse, just across the Rhine from Germany. In fact, on any day when visitors flock to the museum, you will often hear as much German spoken as French or Alsatian and the EMA has long been a cultural bridge between the two economically closest EU partners. The Alsace has a long tradition of varied utilization of animal power, due to its geographical mix of plains and upland agricultures, and the concentration here will be on ox draft. This is a reflection in microcosm of the diversity of ox draft technologies in France, where there were still over two hundred pairs of working oxen – be it "working" in periodic festive events or everyday small farming – in a 2006 census.[3]

As one might expect, a favourable context is the prime enabler in any major museum strategy for the future and the EMA has it. The museum's grounds neighbour the town of Ungersheim, a major player in the transition town movement that has had two documentary films dedicated to its methodologies in moving towards energy autonomy and consumption of high-quality local food

[2] Wake Up Before It Is Too Late. Make Agriculture Truly Sustainable Now for Food Security in a Changing World, UNCTAD (United Nations Conference on Trade and Development), Trade and Development Review 2013, 321 pp. and Claquin, P, Martin, A., Deram, C., Bidaud, F., Delgoulet E., Gassie J., Hérault B., MOND'Alim 2030, Panorama prospectif de la mondialisation des systèmes alimentaires. Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt, Service de la Statistique et de la Prospective, Centre d'Etudes et de Prospective, La Documentation Française, 2017, 228 pp.

[3] Laurent Avon. Inventaire des attelages 2006, Paris, Institut de l'Elevage, 2006 The census author takes the view that the data is an under- rather than an overestimate.

Fig. 1 *View from village tower to nature reserve, photo: C. Griffin-Kremer*

production.[4] The synergies between town and museum have been highly fruitful over long years since the EMA was founded on – yes – a "failure", as the president of the museum's friends association expresses it.[5]

Flashing back to the early 1970s, when the vernacular architecture of the Alsace was being torn down at heart-breaking speed, a highly motivated heritage group tried everything to save the buildings *in situ* and saw they were doomed to failure, so… they changed course and founded what most European museum folk would recognize as a "skansen", based on the concept of a single village hosting the myriad of vernacular buildings from a multi-story stone tower to hen-house or privy. This village borders on two areas: the ecological diversity hotspot recovered from the totally sterile grounds of the potash plant that once dominated the site on the one side, and on the other, the fields and forest that enable agricultural activities, including plains and hillside vineyards, as well as the forest resources with their woodland and charcoaling activities, that make up an agro-ecological system as a work-in-progress.

[4] The films Qu'est-ce qu'on attend? (What are we waiting for?) and Sacré Village (What a village!), both by Marie-Monique Robin, both 2016. Also see Rob Hoskins The Transition Handbook, From Oil Dependency to Local Resilience, Green Books, 2008

[5] Jacques Rumpler, President of the Association of Friends of the Ecomusée d'Alsace during FEMS (Fédération des écomusées et musées de société) Annual General Meeting, 30 March 2017.

Fig. 2 *Alsatian House of the 21st Century, photo: C. Griffin-Kremer*

As one might expect, a favourable context is the prime enabler in any major museum strategy for the future and the EMA has it. The museum's grounds neighbour the town of Ungersheim, a major player in the transition town movement that has had two documentary films dedicated to its methodologies in moving towards energy autonomy and consumption of high-quality local food production. The synergies between town and museum have been highly fruitful over long years since the EMA was founded on – yes – a "failure", as the president of the museum's friends association expresses it. Flashing back to the early 1970s, when the vernacular architecture of the Alsace was being torn down at heart-breaking speed, a highly motivated heritage group tried everything to save the buildings in situ and saw they were doomed to failure, so… they changed course and founded what most European museum folk would recognize as a "skansen", based on the concept of a single village hosting the myriad of vernacular buildings from a multi-story stone tower to hen-house or privy. This village borders on two areas: the ecological diversity hotspot recovered from the totally sterile grounds of the potash plant that once dominated the site on the one side, and on the other, the fields and forest that enable agricultural activities, including plains and hillside vineyards, as well as the forest resources with their woodland and charcoaling activities, that make up an agro-ecological system as a work-in-progress.

This is where the futures of vernacular architecture and of agriculture converge in the two-pronged strategic plan of the EMA that aims at encouraging the use of traditional skills, local materials and building techniques allied with radical economies of energy in the "Alsatian house of the future" as the built element in "Living in the 21st Century". Nestled in this overarching programme is "The

Theatre of Agriculture" with its components of past, present and future: the "pathway" of Morand, a narrative of a twentieth-century farmer beside the fields sown with a diversity of local crops, always labelled for visitors, as are the outdoor exhibits on soil types in the Alsace and how they have been and can be utilized.

Fig. 3 *Path to the Theatre of Agriculture, photo: C. Griffin-Kremer*

That is but a quick glimpse of the programme in field and forest and links to the EMA's philosophy, which can be summed up in the motto they took for a recent newsletter: "Tradition is not to worship the ashes but to pass on the flame".[6] That is, not to repeat, not to re-enact – but a far more subtle strategy – to analyse then utilize the best of the traditional to develop low-impact, high-yield agriculture. The use of animal energy is paramount in this, including the by-product of fertilizer and the linchpin in activities for both agriculture and public information, with entertainment, is the museum's stock of working animals – horses, donkey, oxen, cows, goat and occasionally loaned dog. The centrepiece is often the expert oxdriver, Philippe Kuhlmann, who has trained many volunteers over the years and whose work to write a manual is actively supported by the museum, and the museum's collection of archives. However, he does not stand alone, as there is an in-house agriculture team, the many highly qualified volunteers, and the yearly input of the oxdrivers' group.

On the EMA map, the "May Day Bridge" leads from the village to field and forest, just as the oxdrivers' meeting is a bridge between experts and amateurs from European countries, most especially from France and Germany, where the "Arbeitsgruppe

[6] Attributed to Gustav Mahler

Rinderanspannung" (Cattle-harnessing Working Group) has been going strong since the late 1990s. The EMA meetings draw participants from the British Isles to Switzerland and involve oxdrivers, museum personnel, and researchers, including historians, zootechnicians and most especially archaeo-zoologists. The last are interested in bridging past and present, so the oxdriver has his "own" archaeologist, who came with a team to reconstitute the harness they found in waterlogged conditions in Switzerland. The yoke, tack and travois appear to reflect the prehistoric rock art of the Vallée des Merveilles, in the French Alpes Maritimes.[7]

Today's demanding world will broach no "prehistoric" treatment of animals, so attentive care and training are paramount, with emphasis on animal welfare and transmission of skills, as well as the security of museum staff and visitors. To cite only one example, the EMA's trave (or ox slings) had come to be an unwelcome sight to the gentle old ox Mani, as everyone had noticed he was not comfortable in it during shoeing, so the oxdriver and especially one of the museum's long-time volunteers invested considerable thinking and action in improvement, designing a lifting "cuff" and reworking the hind-leg support strut, as well as the sling mechanism. Ox comfort and cooperation in a real-life situation means one thing in real small farming: time is money. The faster and more efficiently a farrier can shoe an animal, the more feasible it is to transfer such skills to real working situations and this example alone highlights some of the challenges to animal-powered farming in Europe. Firstly, there is a shortage, if not total dearth of ox cues, most of which are recovered from clusters of rusted material picked up in antique (even junk) shops. To compound the difficulty, the skills needed are no longer widely held, as horses are shod "hot" and cattle "cold". If the German farriers count on a cow or ox holding up its hoof in the farmyard, this is a window of learning opportunity largely missed in France, where the custom is shoeing in a trave, so the oxdrivers' group is presently doing its best to bring together two trades that generally never meet – farriers and hoof-trimmers. Then, they can debate whether to shoe the outer fore-hooves only, or both claws, or both fore and hind-hooves, depending on the intensity of work foreseen.

This is but one element of the work done and experiences discussed during the yearly oxdrivers' meeting – showing and demonstration of harness, including yokes old and new, the latter made by various professionals and the EMA's new saddler as replicas of the museum's collection of tack (head yoke, single frontal yokes, withers yokes, with

[7] The travois from the Lac Chalain excavations, Jura, France, end 4th millennium BCE, cf. Pierre Pétrequin, Rose-Marie Arbogast, Anne-Marie Pétrequin, Samuel van Willigen, Maxence Bailly (dir.), Premiers chariots, premiers araires. La diffusion de la traction animale en Europe pendant les IVe et IIIe millénaires avant notre ère. (Paris: CNRS Editions, 2006), Pl. III. Also Un travois pour les dieux, Lac Chalain 31e siècle avant J.C. Bruno Théry et Adrienne Lo Carmine (réalisateurs), Pierre et Anne-Marie Pétrequin (auteurs). CERIMES, DVD, 2007.

special emphasis on the three-pad collar perfected in the 1930s). And, there is a feeling of urgency in the air each year, because so many older skillsholders are disappearing. There is always emphasis on the latest "light technology" for harness and equipment, often from people who attend the Horse Progress Days in Amish country in the United States, though there are many European equipment developers. In 2016, the oxdrivers tested out the "forcat", a multi-purpose super-light tillage device used by Catalan market gardeners a stone's throw from the high rises of the Barcelona suburbs.[8] The meetings provide an opportunity to use the museum's collection of farm carts, wagons and tack, and the oxdriver Philippe Kuhlmann is also an inventor, who knows the value and necessity of developing equipment to give maximum assistance to a small farmer often working alone in rough country. Over recent years, he has been experimenting with his "ramé", a push-pull forklift reminiscent of the Gallo-Roman vallus, at least in its forward operating mode.[9]

Fig. 4 *Philippe Kuhlman push-pull forklift, photo: C. Griffin-Kremer*

[8] Also explored during the May 2016 conference of the FECTU (Fédération Européenne du Cheval de Trait pour la promotion de son Utilisation). For photos and commentary in French: http://attelagesbovinsdaujourdhui.unblog.fr/2016/05/25/la-forcat-un-outil-de-maraichage-simple-et-efficace-demonstration-avec-un-boeuf-vosgien-en-solo-le-7-mai-2016-aux-rencontres-de-bouviers-a-lecomusee-dalsace-par-solene-gaudin/ (accessed 15 May 2017)

[9] Cf. Georges Raepsaet, Attelages Antiques, Jougs et Jouguets. Etudes d'Archéologie 9, Centre de Recherches en Archéologie et Patrimoine (CReA-Patrimoine), Université Libre de Bruxelles, Le Livre Timperman, 2016, Ch. VII Le vallus et la traction-propulsion à une tête, 143-148.

Philippe's inspiration is not limited to harness, tillage implements and his "ramé". As a mountain farmer, he is confronted every year with transferring his animals from lower to higher pastures and has invented a movable stable that fits perfectly into one of the main events of the EMA's "Living in the 21st Century" programme: the Bauistella (like German Baustelle, English construction site) Competition for student, professional and amateur builders. The 2017 competition subject was mountable and demountable architecture that took place near the still a-building "Alsatian House of the Future".

The new equipment and innovative stables converge with the EMA's deontology of presenting as authentic information as possible in the framework of animal welfare and human safety. This serves as a reminder to all museum professionals of the challenges involved in avoiding misconceptions and unintentional disinformation about working animals that can still be found in some displays, info-sheets and online materials. Helping the public understand the limits of authenticity runs parallel to museums' needs for arguments in favour of their impact on both education and the local economy. This was dramatically, if sadly, highlighted in a recent incident in the United States when a Banker horse – a pillar of the tourist economy in North Carolina – was shot and killed. The judge needed to know what the culprit owed to fellow citizens and the official inquiry revealed that one Banker horse in a normal lifetime of over twenty years was worth well above $14,000,000 (ca. €15,000,000) to the state's tourist activities.[10] If this sort of calculation happily does not often need to be made, it gives ample food for thought to museums about just how much their animals of all kinds may be "worth".

Value, however, hardly stops at the village square in the Ecomusee d'Alsace or in any other museum or site using working animals. Their activities can show low-impact draft practices to underwrite sustainable small-farming in Europe and linkage, especially though equipment and animal welfare concerns, with farmers worldwide using animal draft in the race to feed nine billion in 2040 without creating ecological catastrophe.[11] Unfortunately, although typical publications by international or national organisations stress sustainability, avoiding soil loss and compaction, using local seed and local energy sources, they often devote three pages – or none – to the realities and potentials of animal draft and fertilizer.[12] It is sobering to recall what can happen when farmers are driven massively from their land – be it because of drought and war, dumping of subsidized produce from the First World or the many other factors involved. Seeing farming from a worldwide perspective can inform the richest

[10] Special thanks to Jeannette Beranger, Livestock Conservancy, who flagged up this "case". For report, see "How Much is a Banker Horse Worth?" AIMA Newsletter N°7, p. 25 https://agriculturalmuseumsdotorg.files.wordpress.com/2015/05/aima-newsletter-n7-summer2016.pdf (accessed 15 May 2017)

[11] On population projections, see Jeffrey Sachs The Age of Sustainable Development, Cambridge University Press, 2015, pp. 208-214.

[12] See note 2 for Wake Up Before It's Too Late and MOND'Alim.

of local concerns, as in "The Theatre of Agriculture", where a far more upbeat element regularly comes in loud and clear in the EMA's animal-energy working days. That is the pure pleasure so many experience when bending hand and mind to working with the animal partners that have helped construct our cultures since what Andrew Sherratt termed the "second agricultural revolution" of the fourth to third millennium, which involved an energy explosion, if a quiet one. [13] Now that we are living in the twenty-first century, the Alsace Ecomuseum is dedicated to exploring how we might live and also thrive through wedding traditional agricultural wisdom with viable practice.

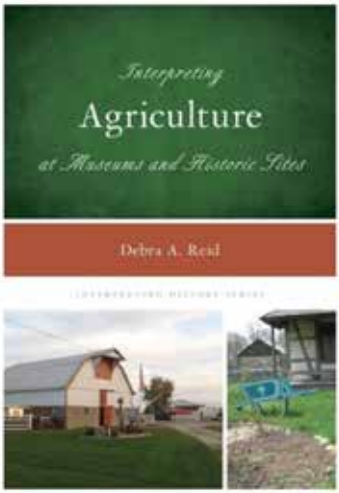
[13] Cf. Andrew Sherratt, Plough and pastoralism: aspects of the secondary products revolution, in Pattern of the Past: Studies in honour of David Clarke, edited by I. Hodder, G. Isaac and N. Hammond (Cambridge University Press: Cambridge 1981), pp. 261–305.

Debra A. Reid

Curator of Agriculture & the Environment
The Henry Ford, United States of America
debrar@thehenryford.org

Photo by Frank Wiecha

Dr. Reid is Curator of Agriculture and the Environment at The Henry Ford in Dearborn, Michigan, USA. This is a multi-part facility including the Henry Ford Museum of American Innovation, Greenfield Village, the Benson Ford Research Center, and the River Rouge Factory Tour. Reid has worked at several open air museums and living history farms, including The Farmers' Museum, Inc., in Cooperstown, New York, Old World Wisconsin, and The Gov. Bill and Vara Daniel Historic Village, Baylor University, Waco, Texas. Reid earned her PhD in History at Texas A&M University and is Emeritus Professor of History at Eastern Illinois University where she taught history and historical administration. She is the author of numerous articles, book chapters, and monographs, plus Interpreting Agriculture at Museums and Historic Sites (2017). Reid is past president of the Association for Living History, Farm and Agricultural Museums and has been active in AIMA since 1998 and the U.S. alternate or representative to the AIMA board since 2001, and an officer since 2011.



INTERPRETING AGRICULTURE WITH A FOCUS ON THE HUMANITIES

Interpreting Agriculture in Museums and Historic Sites (Rowman & Littlefield, 2017) is part of the Interpreting History Series, a joint effort between the American Association for State and Local History (AASLH) and Rowman & Littlefield. The series' editorial board wanted a book on how organizations could "do interesting/good work with their collections" to interpret "agriculture/farming."

Fig. 1 *Cover, Interpreting Agriculture at Museums and Historic Sites (Rowman & Littlefield, 2017)* *https://rowman.com/ISBN/9781442230101/Interpreting-Agriculture-at-Museums-and-Historic-Sites* Appendices available at: *https://alhfam.org/InterpAg*

They were "not necessarily looking for a book for an audience of agricultural museums, more for how 'regular old history institutions' can use their own resources for excellent programs/exhibits, etc."[1] Additional parameters existed. The series already had a book on interpreting food in progress, written by Michelle Moon, and another book on interpreting the environment planned. When I talked with Michelle I learned that she and Cathy Stanton also had a book about the public history of the food movement in progress (forthcoming from Routledge). Thus, I knew from the beginning that I needed to address "agriculture" on its own merits and not digress to one of the reasons farmers farm – food -- or to the mutual dependency between the environment and "agriculture." This proved challenging, but it forced me to think creatively about agriculture as a humanities subject, and to deliver the information in a way that any institution can embrace.

The book includes four sections. The first section introduces terms and explains the "humanist" point of view and "historical thinking." The second section introduces research methods to document agriculture using secondary and primary sources as well as artifacts. Case studies provide examples of how research can inform local and regional history as well as collecting initiatives. The third section links research findings to interpretation. Case studies illustrate the ways that local research can inform regional, national and international stories. Topics include the good roads movement, draft horses, livestock in living history programming and controversial subjects in contemporary agriculture, GMOs for example. The fourth section summarizes the multi-step approach to planning and implementing agricultural interpretation and including two case studies, one focused on a house museum in Texas and one on a static exhibit designed by students at Tusculum College in Tennessee.

Definitions kept me on track, and helped me establish a framework for the book's structure.

Agriculture: The practice of growing crops, rearing livestock, and producing animal products (as milk and eggs) regarded as a single sphere of activity; farming, husbandry; also the theory of this. -- Oxford English Dictionary

Farming: The business of growing crops and rearing livestock -- Oxford English Dictionary

Throughout Interpreting Agriculture, I use the term, "agriculture," to when talking about practice and "farming" when talking about the business of growing crops and rearing livestock.

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[1] Email, from Bob Beatty to Debra A. Reid, 20 June 2013. Bob Beatty was Vice President for Programs at the American Association for State and Local History at the time, and is now (29 August 2017) the editor of History News and managing editor of the AASLH Book Series. Phone calls with Beatty and Moon followed soon after the initial email.

Nostalgic ideals simplify the reality of farming historically and today. I addressed the disconnect between the historic and contemporary reality with popular notions of independent land-owning farmers and romanticized ideals of family farms. Families labored at these tasks, whether they owned land or not, and it took a herculean effort to keep farms viable and families and laborers in the fields. Family farms and land-owning farm families often receive most attention in historic sites because these farms managed to survive, but agricultural laborers, including unfree servants and the enslaved, warrant additional attention when interpreting agriculture.

Defining agriculture as a "single sphere of activity" begs the question of what other spheres of activity affected the practice of growing crops and rearing livestock historically, and continue to serve agriculture and farmers today. Numerous businesses helped keep farmers in their fields and farmyards – equipment manufacturers and dealers, veterinarians, auction houses, banks, feed mills and seed companies to name just a few. These additional spheres of activity can help you decide what to collect and how to use it to engage a public distant from farm fields. Interpreting Agriculture stresses the importance of local research into family farms and agricultural businesses as a foundation for linking your museum or historic site to compelling regional, national and international stories.

All history organizations, whether a living history farm or a historic house or an archive that has farm account books, can engage a public with no direct connection to farming. The general public has very few opportunities to interact with historic artifacts and the built environment from that remote past. And the lessons can be profound. Seed samples from the late nineteenth century retain DNA that plant geneticists can utilize in their research, ubiquitous farm tools such as shovels and manure forks help people realize the physical demands of stoop labour. The ordinary plow, pitch fork and butter paddle can become the object to tell that story, even if the farm land has disappeared into subdivisions, and agriculture seems as remote as the nineteenth century.

The humanities provide a means to help make these stories compelling. The process starts with finding the stories of people, in a place, growing crops and rearing livestock and struggling to survive.

Why is it important to emphasize the utility of the humanities to reach the general public with lessons from the past?

First, the time is right to advocate for the humanities. In this day of instantaneous access to history facts via Google and Wikipedia, teaching history must change from facts and recall to context and interpretation. Other humanities (literature, theatre, the creative arts) struggle to retain traction in all levels of education, K-12 as well as higher education. The Common Core

curriculum addressed the need to emphasize higher levels of thinking in humanities education. As a history professor, I knew that organizations such as the American Historical Association (AHA) ramped up advocacy of history education in high schools, colleges and universities. AASLH and the National Council on Public History (NCPH) allied to advocate for public history. The History Relevance campaign united the AHA, the AASLH and the NCPH in devising as compelling an advocacy for history education as STEM, STEAM and STEMI did for studying the sciences (science, technology, engineering, mathematics, with the arts and with international context and/or innovation and/or intelligent design).

Museums and historic sites can assume a major role in this re-visioning of humanities and history education. Some conceptualize public history as the basis of a liberal arts education. They argue that history educators should engage students in research and writing, but should take the next step of interpreting that history to an audience (transforming findings into a webpage or public program at a local historic site or museum exhibit in cooperation with a local host). To this end, I conceptualized the book as more than a how-to about interpreting agricultural history. Instead, the book took a humanities approach to interpreting agriculture, not just agricultural history.

Second, STEM (science, technology, engineering and mathematics) provides a popular framework around which to construct and promote education programs. Agriculture fits easily within STEM disciplines, but the embrace of STEM further isolates and undermines the humanities. I decided to approach this head-on by arguing that history museums and historic sites should play to their strengths. I devoted a chapter to historical thinking in an effort to explain the importance of documenting the past in a place. I also argued, however, that every place (city or country) had agriculture in its past. Finding it required research skills. Thus, the "H" in humanities – history – became the foundation on which I structured Interpreting Agriculture in Museums and Historic Sites.

Third, a multidisciplinary approach to interpreting a STEM subject makes sense. I conceptualize this as STEM to the power of H, or the STEALTH approach.[2]

S = social science with politics and the reminder to be aware of the science and the politics of raising crops and livestock and the cultural geography that can help explain human interaction with place and the effect of place on human behaviours

[2] My colleague at Eastern Illinois University, Nora Pat Small, came up with STEALTH. See Debra A. Reid, Interpreting Agriculture in Museums and Historic Sites (Lanham, Maryland: Rowman & Littlefield, 2017), 7-8.

T = theatre and the reminder of paying attention to technology (the tools used to raise crops and livestock)

E = environment and economics as well as engineering

A = the arts but could also include algebra to retain the mathematics of STEM

L = literature and livestock and farm life

T = reinforcement of the need to take seriously the ways that technology (from hand tools to robotics) affected agriculture over time, but also the opportunity to use theatre to convey the stories

H = history and the reinforcement of humanities perspectives on the subject

Fourth, even though Interpreting Agriculture at Museums and Historic Sites advocated for a STEALTH approach, I still had to figure out a compelling rationale to persuade those not convinced that interpreting agriculture warranted the effort. A thirty-year effort to increase agricultural literacy through formal instruction provided leverage. The National Agriculture in the Classroom curriculum supports K-12 instruction designed to educate students about the sources of food, fibre and fuel. I structured Interpreting Agriculture as a clarion call for humanities-based lessons in the production of food, fibre and fuel.

Fifth, I explained the polarized nature of conversations about agriculture today as evidence of public interest, and justification for incorporating more agriculture in interpretation. It is a misnomer to claim that no one cares about agriculture. In fact, people do care, but they do not converse about the subject. They tend to argue about it. Museums and historic sites can become mediators to facilitate conversation, and can bring farmers to the table to launch the conversations.

STEM to the power of H

Humanities approaches differ in substantive ways from science and social science approaches. Sciences stress objectivity, hypotheses and quantitative evidence and experiments with predictable outcomes. Social sciences apply scientific method to study human subjects. Research based on observation and quantitative or qualitative evidence uncovers patterns of behaviour. Humanities stresses the individual and the personal.

The most comprehensive approach to interpreting agriculture should engage a team with members well versed in the physical and applied sciences, in the social sciences, and in the humanities. Focus groups with these perspectives, plus members of farm families and the general public, should inform the process.

Relevant disciplines include but are not limited to:

Science Frame of Reference – STEM, STEAM, STEMI

- Chemistry, Biology, Ecology, Botany, Physical & Earth Sciences (Geology, Geography)
- Technology
- Engineering
- Mathematics, Physics
- STEM PLUS Art = STEAM
- STEM PLUS Innovation and Entrepreneurship = STEMI

Social Science Frame of Reference

- Sociology
- Psychology
- Political Science; Policy
- Law
- Anthropology; Archaeology
- Economics
- Cultural Geography (humans and the built environment)
- Consumer Science/Domestic Science/Home Economics

Humanities Frame of Reference

- Ethics
- Philosophy
- Art
- Architecture
- Literature
- Language
- Theatre
- History

Asking questions from different perspectives: This amounts to adopting an agricultural point of view and a mind-set that recognizes multiple perspectives (a farmer's eye view, a plant's eye view, or an animal's eye view) to the huge, diverse, and often controversial subject of agriculture.

What sorts of questions would a scientist, social scientist or humanist ask of an ox yoke? The scientist asks about material, construction method, conformity of draft animal to yoke, alignment of yoke and load, and function in different contexts (flat land, hillsides) and with different load weights. They might take a core from a yoke to determine the place of origin of the wood, and its age. Social scientists ask about the human interaction with the animal, and might document the consistency of cultural practices as well as the distinct practices in different places at different times. They study ongoing rituals and practices that survive despite changes in technology and agricultural practices. They compare yokes from the same region and contrast them with yokes from different regions. Humanists collect personal stories from archival sources and from oral interviews. They seek details from photographs or paintings and from tools with provenance. The best interpretation of agriculture takes all of these perspectives into account.

Interpreting Agriculture at Museums and Historic Sites helps educators and interpreters see the potential for developing a humanist approach to agriculture education, exhibits, and programming. This starts with a rational for adding history, literature, theatre and the arts to the study of a multidisciplinary subject – agriculture. It continues with a step-by-step procedure to document agriculture in local, regional, national, and international contexts. It provides numerous examples about how to develop interpretation, including basic research into archival and three-dimensional evidence, training in reading photographs and analysing artifacts, and ideas for exhibit and programs. It identifies partners with similar goals to increase rural tourism, sustain local agriculture, conserve farmscapes and preserve heritage breeds and seeds.

Too often history museums and historic sites believe they can broaden their audience and address science-centre subjects by adopting a STEM approach. What happens, instead, is that the history (and humanities) receives less attention, and non-experts deliver cursory information about complicated topics. The best interpretation of multidisciplinary subjects, such as agriculture, involves experts from all perspectives (the sciences, social sciences, and the humanities).

Humanists have much to contribute to the process, and should not underestimate the significance of the humanities to understand agriculture and farming historically and today. Interpreting Agriculture provides

justification to dedicate limited resources to researching, collecting and interpreting a global topic, one humanized local story at a time. These stories can inform a public very distant from the fields that feed and clothe them about a topic too important to ignore.

God Speed the Plow!

What's next? What more do you want to see? Let me know. Please contact me at debrar@thehenryford.org or 1-313-982-6118 (work).

Appendix (Parts 1-5) from Reid, Interpreting Agriculture at Museums and Historic Sites (2017)

I spent countless hours compiling a five-part Appendix for Interpreting Agriculture. The parts included a bibliographic essay and a timeline spanning four centuries that identifies significant events and agricultural policy over time; two lists of organizations that already support interpretation of agriculture from different disciplinary perspectives and resources developed by ALHFAM's FARM Professional Interest Group. These all got cut due to page count restrictions. As a result, the book contains only an abbreviated description of the five parts. It seemed critical to work within ALHFAM to build the support system for interpreting agriculture, so ALHFAM's board agreed that the Appendix could appear in its complete form on ALHFAM's webpage at http://alhfam.org/InterpAg.

Access all five parts of the Appendix: Interpreting Agriculture at Museums and Historic Sites at ALHFAM: http://alhfam.org/InterpAg

Part I: Professional Organizations Supporting the Study of Agricultural and Rural History

Part II: Selected Advocates of Agricultural Education and Potential for Partnering

Part III: Selected Readings in Agricultural History

Part IV: Timeline: National Policy and Agrarian Legislation

Part V: ALHFAM's Livestock Care in Museums

Presenters interpret Victory Gardens, a domestic mobilization campaign during World War II that encouraged Americans to plant home gardens to help feed the home front. This vignette was staged during the two-day Motor Muster event, June 16 and 17, 2018, in Greenfield Village, an attraction of The Henry Ford, Dearborn, Michigan.

Photograph by Debra. A. Reid, June 17, 2018.

Gardens with heritage varieties become the focus of much agricultural interpretation at historic houses. This image shows the garden, interpreted as typical of Bryan County, Georgia, in 1931, the year interpreted at the Mattox House, an installation in Greenfield Village, The Henry Ford, Dearborn, Michigan.

Photograph by Debra A. Reid, June 17, 2018.

Felicity McWilliams

Project Officer
Museum of English Rural Life, University of Reading
King's College London, United Kingdom
felicity.mcwilliams@gmail.com

Felicity McWilliams is a museums professional and postgraduate student of the history of agricultural technology. She is undertaking an AHRC-funded Collaborative Doctoral Award PhD at KCL and the Museum of English Rural Life, entitled 'Rethinking Technological Change in Modern British Agriculture: the use of draught power on farms, c. 1920–1980'.

Education

2015 – Present – PhD History, King's College London

2010–2011 – MA Museum Studies, University College London

2007–2010 – BA Archaeology & Anthropology, University of Cambridge

FORCES FOR CHANGE: THE SOCIAL HISTORY OF AGRICULTURAL TECHNOLOGY IN MUSEUM

Introduction

In October 2016, the Museum of English Rural Life, at the University of Reading, reopened to the public after a two-year closure for redevelopment. The redevelopment project––entitled Our Country Lives––aimed to connect a new, increasingly urban, generation to England's rural heritage through community engagement and a complete redisplay of the museum's galleries. The museum is situated a short walk from Reading town centre, in the gardens of a listed

nineteenth-century building built as a home for prominent Reading manufacturer Alfred Palmer and later used as a university hall of residence. The museum moved from the main university campus to the site in the mid-2000s, making the pre-existing galleries around ten years old when they were dismantled.

The new, extended galleries were intended to achieve a few particular interpretative aims. First, they were to bring a wider range of the collections, including archives, photographs, smaller objects and textiles out of the stores and onto display. In particular, this included many of the objects collected in the late-2000s as part of a project called Collecting 20th Century Rural Cultures, which aimed to enhance the collection with objects which speak to England's rural culture and its representations.[1] In addition to displaying a more diverse range of the collection, however, it was intended that the new galleries should offer visitors stronger narrative interpretation and foreground the stories of rural people in particular. The old galleries had been arranged in four sections according to object material––wood, metal, straw and leather–which artificially dissected the collections in a way which made telling those 'people stories' very difficult.

At the time of the redevelopment, I was working as one of a number of Project Officers in the curatorial team, and one of the galleries for which I was responsible eventually became Forces for Change, dedicated to agricultural technology. This has traditionally been a popular topic with visitors, particularly special interest groups, and the museum holds strong relevant collections, including the archives of a number of large agricultural engineering firms such as Ransoms, Sims & Jefferies of Ipswich and Marshall, Sons & Co. of Gainsborough. Indeed, a significant motivation for the founding of the MERL in the early 1950s was the perception that the pace of technological change in farming was accelerating.[2] Agricultural researchers at the University of Reading were concerned that many tools and machines were falling out of use and being lost to history, and accordingly early collecting was organised along the principles of salvage anthropology. The display of agricultural technology in both previous incarnations of the museum, like much research in the history of agricultural technology, reflected a rather innovation-centric interpretation of technology.

In this paper I will discuss the development of the interpretative approach taken in Forces for Change, and its subsequent influence on my own doctoral research into draught power technologies on twentieth-century British farms. I will argue that many of our histories and museum displays of agricultural technology have prioritised economic and technical stories of agricultural

[1] Objects collected as part of this project were featured on a blog, with former MERL Keeper Roy Brigden discussing the rationale for adding such items to the collection: http://collecting20thcruralculture.blogspot.com/, accessed on 16/06/2018 at 16:30.

[2] Peter Rivière, 'Success and failure (The tale of two museums)', Journal of the History of Collections, 22 (2010), 141–151.

engineering in ways that have simplified the complex relationship between particular technologies and particular people, times and places. Histories of agricultural technologies that speak to their use, modification, maintenance, rejection or abandonment, as well as their development, better avoid technological determinism and place people––their thoughts, skills, and lived realities––at their heart.

Forces for Change: developing a gallery

Early concepts for Forces for Change, starting from the strength in archive collections, focused on the expansion of companies such as Ransomes, Sims & Jefferies from local blacksmith's forges to large international firms. Discussions amongst the curatorial team, however, soon centred on the desire to move beyond a traditional narrative of deterministic technological improvement towards a more anthropological approach which would focus on the users of technologies rather than their manufacturers. Perhaps not coincidentally, Curator of MERL Collections Ollie Douglas was at this time also in the process of developing an application for funding from the Arts and Humanities Research Council, in collaboration with the Department of History at King's College London, for two PhD students to use the MERL's collections to research the use of technology in twentieth-century British farming. I went on to take up one of those research projects, looking in particular at the use of draught power machines and animals, and my project has been strongly influenced by the interpretive approach eventually taken in *Forces for Change*.

Figure 1 *Forces for Change gallery introduction. Image by the author.*

It can be challenging for curators and researchers to draw contextual, social historical stories out of agricultural technology collections. Important components of technological change––population growth, economic change and advancements in manufacturing processes––can be abstract and impenetrable long-term trends to convey to visitors. Machinery is bulky and dominant within gallery spaces, and the tractors, threshing machines, seed drills and reaper-binders in the MERL's collection are permanently indoors and never used in demonstrations. In order to focus on the people who engaged with these technologies, then, Forces for Change asks visitors to think about why certain individuals might, in certain times and places, chose to use––or indeed choose to not use––them. It features six real but not necessarily widely known people and a technology they engaged with, from inventors and so-called 'early-adopters' to those who rejected new technologies or revived traditional processes. This approach sacrifices the reassurance of a chronological narrative for interpretative 'snap shots' that both challenge and encourage visitors to reflect on their own engagement with technologies.

Rather than Jethro Tull, for example, the seed drill is explored in relation to a less-famous contemporary, George Boswell, who frequently wrote to fellow farmers about his experiments with a drill of his own design and manufacture. Though he was well-known for his publications on water meadows, Boswell was not a gentleman farmer able to dabble in 'barn engineering' out of pure interest: he struggled financially and was clearly interested in new technology for its potential to improve his own farming.[3] His story is one of networks of knowledge sharing, experimentation, and the time taken for ideas to spread; it helps question the prominence sometimes given to the narrative of the lone genius inventor. Another individual featured is John Wilder, who farmed a Berkshire estate in the early-nineteenth century. Wilder had purchased a labour-saving threshing machine during the Napoleonic Wars but by the 1830s it was lying idle and his crop was being threshed by hand with flails once more. It is not clear what made him stop using the machine; perhaps he felt a sense of duty to give winter work to labourers returning from the war. Nevertheless, during the 'Swing Riots' of the 1830s in which labourers protested the use of threshing machines, Wilder had his idle machine destroyed to avoid even attracting the attention of the rioters. His story shows that farming technologies are sometimes adopted unevenly, slowly, or not at all. Further, he reminds us that people who reject new machines cannot always be dismissed as traditionalists or laggards, but often have complex and rational reasons for their technological choices.

Four other individuals are discussed, covering a range of periods and geographical locations: a 1930s dairy farmer practicing line breeding in dairy

[3] Joseph Bettey, 'George Boswell of Puddletown (1735-1815): progressive farmer and author', Agricultural History Review, 57 (2009), 58-69.

cattle in south-east England, a nineteenth-century Berkshire entrepreneur who gambled his entire fortune on an ambitious expansion of farmland using artificial fertilisers, a 1970s cheese-maker who used nineteenth-century presses to revive a traditional cheese variety using milk from a heritage herd, and a World War II 'Land Girl' who drove Fordson tractors from a government machinery depot for local farmers. In this way the gallery, whilst ostensibly about the history of agricultural technology in particular, also speaks more broadly to the relationship between humans and technology in general. As such, it is hoped that it is more accessible to the increasing number of visitors who have no direct experience of farming; while the technologies being discussed might be unfamiliar, they may identify with some of the personalities featured and through them see the significance of the machines and processes that characterised their farming.

Figure 2 *Objects, photographs and archival documents all support the 'people stories' told in the gallery. Image by the author.*

These are richly contextualised stories of the technological choices historical actors made, to complement and enhance our understanding of the wider economic and practical impacts of agricultural engineering. Just as this perspective has sometimes been neglected in museum displays, it can be rare in academic histories

of agricultural technology.[4] In the second part of this paper I will share a small element of my recent research into the significance of horses to British agriculture during the early years of tractor development, where I argue that this perspective gives important insight into the transition between the two technologies. It is, therefore a valuable avenue of research as well as a useful way to engage non-specialist museum visitors.

Complementary Technologies: horses and tractors on interwar British farms

The 'peak' number of horses used in agriculture in Britain was around 820,000, a figure that was probably reached in 1910 and sustained for about a decade before beginning its slow but (to date) irrevocable decline.[5] Pointing out the centrality of horses to early twentieth-century British agriculture might seem like a statement of the obvious, but the ease with which historians have discussed the transition between the tractor and the horse often implies the simple replacement of a universal type of horse-powered agriculture.[6] Further, in focusing research on the second half of the equation––the tractors––many studies conclude that the disappearance of horses from Britain's farms was the simple and inevitable result of ever-increasing mechanisation – the same technological determinism that museum displays can easily perpetuate. My project aims to contextualise early tractor adoption by interrogating directly the horse-powered farm as an interconnected socio-economic, technical and physical landscape. By asking how those who worked with and theorised about farm horses felt about them and envisaged their future at this apparent turning point in their significance, we can understand more fully how and why farmers went on to abandon them in favour of tractors.

[4] There is a growing literature in the history of technology addressing this complexity––moving the field beyond a focus on innovation––which has great relevance to our understanding of agricultural technology. See for example David Edgerton, The Shock of the Old: Technology and Global History Since 1900 (London, 2006); G. Mom & D. A. Kirsch, 'Technologies in Tension: Horses, Electric Trucks and the Motorization of American Cities, 1900-1925', Technology and Culture, 42 (2001), 491; C. McShane & J. A. Tarr, 'The Horse in the Nineteenth-Century American City' in D. Brantz (ed.), Beastly Natures: Animals, Humans, and the Study of History (Virginia, 2010), 227-245; A. N. Greene, Horses at Work: Harnessing Power in Industrial America (London, 2008).

[5] E. J. T. Collins, 'The farm horse economy of England and Wales in the pre-tractor age: 1900–1940.' International Economic History Congress, Budapest (1982), 2.

[6] See, for example, J. Martin, The Development of Modern Agriculture: British Farming since 1931 (Basingstoke, 2000), 15-17. This, the main passage dedicated to the farm horse in Martin's study (subtitled 'Demise of the horse economy'), details the declining numbers of farm horses and cites as its causes the contraction of land under arable cultivation and the 'advent' of mechanical power.

Efficiency was commonly lauded as the ultimate goal of the 'good' or 'progressive' farmer throughout the inter-war period, in agricultural research publications, practical farming manuals and agricultural press such as Farmer & Stockbreeder and Farmers Weekly. Horses, alongside other draught power technologies, were therefore judged more than anything else against this somewhat vague and inherently contextual concept. With respect to an individual technology, the concept of efficiency reflected the desire for the best balance of attributes that farmers valued at any given time, but it also extended to the wider farm system as a way of evaluating the best overall balance of technologies and practices. The goal of comparison, therefore, was not always to determine the single best technology, even for any given task, but to determine how the wide range of available technologies could be best––or most efficiently––used together in a farm system. This led to some perhaps surprising predictions for the role of horses in a mechanised farming future. A 1920 farming manual noted, for example, that 'It is never seriously suggested that tractors should displace all horses on farms. It is found that horses are more suitable for the performance of certain tasks, and for this reason the retention of a limited number is considered essential.'[7]

Indeed, even at the end of the inter-war years, Claude Culpin (Chief Farm Machinery Adviser at the National Agricultural Advisory Service) was adamant that 'the displacement of all horses by tractors must inevitably lead to a lowering of the efficiency with which the tractor power can be employed'.[8] In essence, until at least the early 1950s, most writers agreed that horses complemented tractors and at this time were made more efficient by them, and therefore had an assumed guaranteed place in farming for the foreseeable future.

In addition to the notion that horses could still be economically and practically efficient on farms, many farmers and writers spoke of the pervasive culture of horsemanship. Early-twentieth century farms had been shaped around the capabilities and limitations of horses, from the order of the working day to the size and shape of the fields. In addition, horsemen were both carers and co-workers, describing their horses as 'trusty friends'.[9] There are countless examples of the importance of the emotional bond between horse and farmer. As one author of a range of short handbooks for farmers put it, 'a man who cannot talk horse to a horse is rarely a good horse man'.[10] The breeding of specialist heavy horses suited to farm work might have rendered them

[7] E. T. Brown, Farm Tractors: A Practical Handbook on the Selection and Management of a Tractor (London, 1920), 15.

[8] C. Culpin, Farm Machinery (London, 1938), 24.

[9] E. Porter, *Practical Experience of Power on the Farm*, 28.

[10] W. J. Malden, Actual Farming: Its Processes and Practice, Volume 3: Live Stock, Labour and Marketing (London, 1925), 93, emphasis mine. Malden was the former principal of two agricultural colleges and a show judge for the Royal Agricultural Society of England.

recognisable to historians and contemporary observers as a form of technology––or biotechnology––but horsemen also had to know their animals as fellow sentient beings, with individual personalities, strengths, weaknesses, and personal histories.

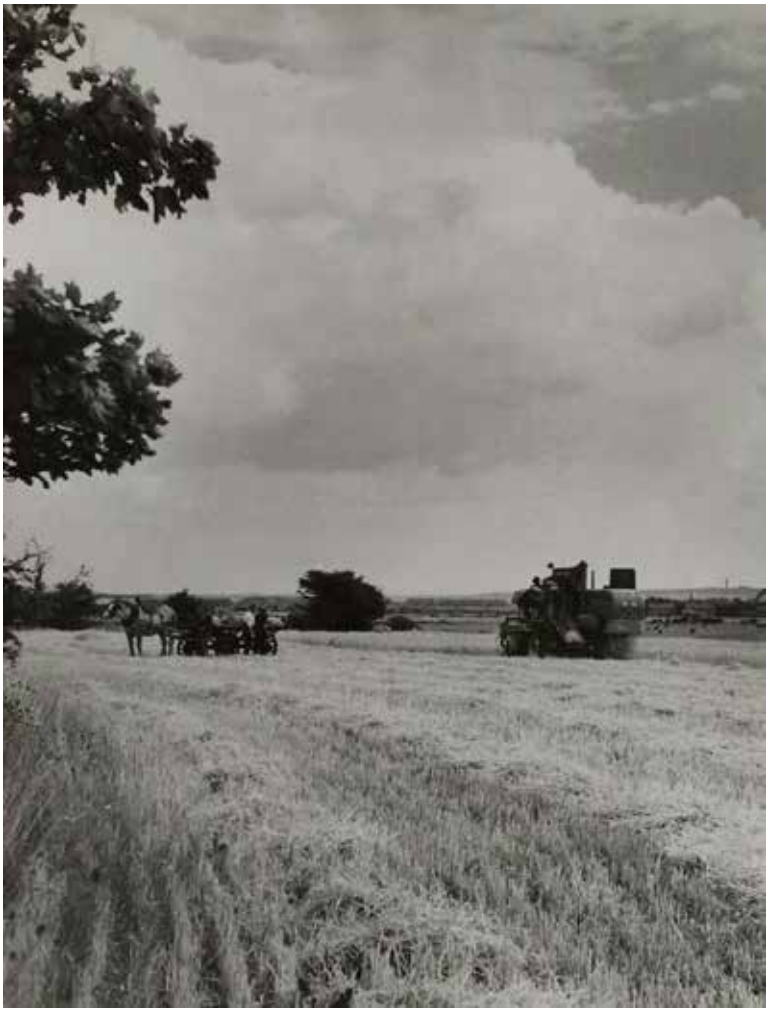


Figure 3 *A diverse mix of new and old technologies in use on a Durham farm in 1961, featured in an issue of Farmers Weekly. MERL P FW PH2/C107/76. Image courtesy of the Museum of English Rural Life, University of Reading.*

George Ewart Evans, the prolific recorder of rural oral history, recorded many stories which echo this. He recounted a comment made by Mervyn Carter, a Suffolk horseman born in 1936:

'I knew all the horses by name, and I knew exactly––one horse, for example, was awkward… The awkwardest man on the place had her… and he was very awkward, and the horse was just as awkward. The two went together. My father used to say he always had that horse purely for that reason: two awkward ones together.'[11]

By the end of the 1930s, horses still outnumbered tractors by more than 11 to 1. Though still a major contributor to the nation's total draught power, however, horses were no longer seen as a feasible solution to wartime power shortages, and had started to become symbolic of the past. For those working with, and writing about, horses at the beginning of those decades, however, horses could, and were, still able to be incorporated into widely accepted ideas about what constituted 'progressive' farming. What's more, those who advocated for the adoption of newer technologies recognised that the emotional connection farmers had to their horses, and the innate skills built on generations of farm horse culture, had a strong impact on the pace and manner in which farmers would eventually replace their horses with machines.

Conclusion

When historians look only at the invention of new agricultural technologies, and not what individual farmers actually used, how, and why––often old, new, animal, machine, manufactured and farm-made technologies together––we obscure the wider effects of those technologies on people's lives and the complexity of the transitions between then. Similarly, Forces for Change offers non-specialist museum visitors new ways to think about the story of agriculture, and also provides an opportunity to engage critically with the concept of technology itself.

[11] George Ewart Evans, Horse Power and Magic (London, 1979), 99-100.

Natalia Trofimenko
National Sholokhov Museum-Reserve, Russia
n.n.trofimenko@mail.ru

TRADITIONAL COSSACK CULTURE CONSERVATION IN NATIONAL SHOLOKHOV MUSEUM-RESERVE

Mikhail Sholokhov (1905 – 1984) is a world-known Russian writer, the Laureate of the Nobel Prize in literature for the novel «And Quiet Flows the Don» in 1965. The epic novel was the first literary work that narrated the world about an ethnic group of people lived in the south of Russia Don Cossacks. The novel gained an enormous popularity and was translated into more than 90 languages. The total edition of Sholokhov's books is 105 349 943 copies.

National M.A. Sholokhov Museum-Reserve was set up on the purpose of preserving the memory of Russian writer, Mikhail Sholokhov (1905 – 1984), the Laureate of the Nobel Prize in literature for the novel «And Quiet Flows the Don» (1965).

Nowadays the museum is known as a unique memorial to the Russian culture, Cossack history and Don Nature. The current museum concept development is called "Open Air Novel". It implies the integrity of spiritual, natural and cultural heritage since you can not only get to know the life and creative work of the great writer but also plunge into the Sholokhov's books atmosphere: traditional Cossack culture, long local customs and crafts as well as unique natural landmarks and picturesque Upper-Don landscapes.

The museum is a complicated body with 12 museum complexes situated in several human settlements in the South of Russia.

40 000 ha – the preserved landscape area

12 museum complexes enter the National Sholokhov Museum-Reserve

256 memorials of history, culture, nature and archaeology

There are preserved all things connected with the life and creative work of Sholokhov: personal belongings, manuscripts, letters, houses, where he lived, the nature, Cossack towns and villages depicted in his works, as long as objects associated with the history and cultural traditions of the Don Cossacks.

The museum is a multi-component complex placed in an extended territory of several towns.

According to the museum concept "Open-air Novel" not only houses or buildings connected with Sholokhov are objects of tourist interest. Due to the memorialization of the place described by him the whole area has become a living illustration to his works, especially the novel "And Quiet Flows the Don". Touring the Museum-reserve we feel looking through the novel. Our visitors have the opportunity to see the villages described in the book, go along the same streets, listen to the songs Cossacks used to sing, examine original articles of those times.

Mikhail Sholokhov spent his long life in a remote place quite far away from busy traffic systems and big cities although he regularly used to be offered to stay in Moscow where he would come because of the publishing or political affairs. According to the author himself it was impossible to reveal the life of ordinary people if you are isolated from them

In order to represent his life more sufficiently the museum represents Cossack culture from all spheres.

It is well known about Cossacks' military life, but the information about their peaceful everyday life is quite sketchy. In order to let our visitors know about it better we have a museum complex in a little Cossack settlement.

There is preserved the house where Mikhail Sholokhov was born. It is a typical Cossack house called "kuren" with straw roof, white clay walls where a basement that was used as a kitchen. As Sholokhov's father was a merchant there is a small shop in the yard of this estate. Opposite the house where Mikhail Sholokhov was born the museum has made a reconstruction of a Cossack homestead. It is wholly interactive and all the objects there can be touched. It was planned according to the description of the homestead of the main personages in the novel "And Quiet

Flows the Don". There is a typical house here, a cellar where our staff keeps tinned products that are grown in the yard there. There are also shelters for animals where there are alive animals. So visitors can try to lead an ordinary Cossack life: feed the animals, collect eggs, milk the cow, shear wool etc. Furthermore, there is some space there that is used to show Cossack agriculture techniques. We have got their farming machinery of different historic epochs: plows taken by bulls, tractors of the beg of 1920s, tractors of the Soviet epoch, carts of different forms and epochs, threshing rollers harnessed with a horse, hand mills and stone mills.

On the everyday basis our tourists can twist ropes with the help of an old equipment, grind grains with a mill stone and feed the animals. By appointment visitors can plow soil with bulls or make hay.

There is an annual holiday that is held there in September called "Kruzhilin toloki". "Kruzhilin" is the name of the village, "toloki" is a Cossack word meaning an old tradition to help neighbours in hard everyday labour. The holiday guests go back to the beginning of the XX century and become not only witnesses but active participants of the old Cossack customs and traditions, agricultural and building techniques peculiar for this area: they plow with oxen, or at the wheel of a rare tractor "Fordson" manufactured in 1920th, reap wheat with a hook or with a horse-drawn mower, build and clay a shed for animals, cook field porridge, pick up water-melons and show loads of Cossack recipes with them: water-melon fresh, water-melon honey called "nardek" and jam, water-melons covered with clay for better storage. What's more holiday visitors get a possibility to lunge into the world of Sholokhov's personages.

Craftsmen reveal their secrets in making pottery, felt and straw laces, mats and fishing nets, spinning wool into yarn, twisting ropes, painting wooden spoons and plates, operating a weaver loom. Nearby masters of blacksmithing blow bellows of a Cossack travelling forge.

Everywhere around there are heard folk Cossack songs that Mikhail Sholokhov used to love so much. Modern Cossack women in traditional clothes treat guests with pancakes made in front of them on the traditional outdoor stove, noodles soup, tea beverage of steppe herbs with honey.

Holiday guests witness Cossack traditions and customs: Cossack meeting before haymaking season during which grass areas were distributed among Cossacks of one settlement. The meeting used to be rather long and emotional. Or another tradition – in case a family lost their head (a man) during the Cossack meeting a new head of the family was elected. It usually used to be the eldest son of the family no matter how young he was. He was put on his father overcoat and became responsible for his family.

The holiday has been held since 2010 and has gained a great popularity. More than four thousand people gather for it.

The Stables. A Cossack life cannot be imagined without a horse. It means the liberty and will for the Cossack. In 2002 there was presented a new museum object – the Stables, that houses of the Russian Don and Budyenny breeds and Shetland ponies, that are not only brought up there but educated as well. This object vividly represents intangible cultural heritage and adds to Cossack culture promotion. There have been worked a programme including out different kinds of excursions (classical, complex, interactive, author), master-classes on the horse care and horse-riding educational program, performance of horse skills and Cossack combat techniques. Every day visitors can watch horse-breeding techniques, communicate to the horse, learn to ride them.

There is also an annual holiday that is held there in May "Vyoshenskie shermitsii - Steed is the Dearest for Cossack". "Vyoshenskaya" is the name of the place, "shermitsii" is a Cossack word meaning an event where Cossack demonstrate their combat techniques, horse managing and weapon handling skills. The holiday depicts strong interrelation of Cossack and horse.

Sightseeing tours about the stables, coach driving elate both adults and especially the young that are going to take part in the lots of games, interactive educational programs, master-classes. They try to throw a lasso "on the horse", compete in knowing Cossack camping details, make decorative hay horses, "shoe" the horse and train in quick horse mounting.

Teens and adults are eager to take part in Cossack competitions: caring after the horse, archery and air rifle, wielding a Cossack sward and a peak throwing.

For lovers of decorative art there are organized other master-classes, such as basket weaving, pottery and artistic painting on wood and ceramics, etc. Cossack military camp and souvenirs zones are especially attracting.

Such physical activities provoke healthy appetite. Therefore, there works a mobile kitchen trailer treating guests with traditional Cossack cuisine. A theatrical performance based on the works of Sholokhov is full of Cossacks everyday routines: regular military service, seeing off a young Cossack leaving for a military service, the tradition of 'becoming a Cossack'- the father of a year-old boy first puts him on the horseback.

The public enjoy horse racing and fancy riding with the use of combat techniques.

The holiday finishes with a ceremony of seeing-off real new soldiers according to the old Cossack traditions.

The Mill Complex in stanitsa Karghinskaya. The steam mill belonged to a well-off Cossack Timofey Karghin. In his young years Mikhail Sholokhov used to work

at the mill and described it in his novel. The museum has reconstructed it and managed to find the same equipment that worked here in the beginning of the 20th century.

The cinematograph "Ideal" was built by Timofey Karghin. It was the first village cinema and attracted a lot of farmers. Mikhail Sholokhov took an active part in the work of this cinema. There was a theatrical group of young Cossacks that staged theatrical performances there. Sholokhov was admired by the locals as a comic actor and as a script-writer. The museum has managed to find the equipment for the cinema and we show our visitors old films, films about the writer and the museum and organize performances like in the years of Sholokhov.

In October there is a literal and ethnographic holiday "Karghin Fair" held on the preserved estate of well-off Cossack Timofey Karghin and reminds its visitors about merry fairs held there at the beginning of the XX century.

People gather in a tearoom, eating house, manufactory shop, take part in different master-classes: wood carving and painting, thick felt, blacksmith's work, etc. Children and even adults teeter on big swings decorated with colourful ribbons and flags, ride merry-go-rounds of the old-fashioned design. The public enjoy the circus performance, ride museum horses and ponies.

Modern Cossacks demonstrate athletic power: come on! Pick up an anvil or an iron millstone! The strongest can try to break the record of 2015 year: drag a 10-tonne-lorry for 20 meters!

At the same time the main stage attracts people with a sincere performance, profound Cossack songs.

One of the most popular Fair attractions is a "pre-revolutionary" photo studio offering to take pictures in the vintage interior in memory of the present event and within half an hour receive the photos framed with an art vignette. Such photos of Cossacks had been kept for a hundred or more years in many families, now they are kept in museum collections as a visual reflection of the environment, which served the basis for many works of M. Sholokhov.

Another entertainment for all the comers is a pleasure boating on the Chir River.

In 2016 after restoration there was opened a cinema "IDEAL" that used to be the second cinema in the Province of the Don Cossacks. The place magnetized people from all over the south of the country. There have been enumerated the main courses of the Cossack culture preservation in the National Sholokhov Museum-Reserve.

Marja-Liisa Vieraankivi

Research Assistant
Natural Resources Institute Finland (LUKE)
marja-liisa.vieraankivi@luke.fi

Marja-Liisa has worked with environmental issues, like rural based environmental education and environmental impacts of food (Baltic Sea area). Currently she is coordination the management part of Baltic Sea Region project called VillageWaters. VillageWaters is trying to find well-fitting wastewater system to household and small villages in rural areas.

Anneli Nuoranne

Research Assistant
Natural Resource Institute Finland (LUKE)
anneli.nuoranne@luke.fi

Anneli works as research assistant in Research Infrastructure Services unit in Natural Resource Institute Finland in Jokioinen. She has worked as research assistant in MTT Agrifood Research Finland, Jokioinen and as research secretary from 2003 to 2014. Her current work is to take care of the Agricultural Exhibition Park Elonkierto. Anneli Nuoranne is responsible for park's marketing, developing, co-operation and activities. By education she is a horticulturist.

THE AGRICULTURAL EXHIBITION PARK ELONKIERTO – HOW TO MAKE HISTORY AND RESEARCH ALIVE

Background

Natural Resource Institute Finland (Luke) was established in the beginning of 2015 by combining Agrifood Research, Forest Research and Game and Fisheries Research. Our Institute works under supervising of Ministry of Agriculture and Forestry.

Luke is the second largest research institute in Finland and has approx. 1300 employees, half of them are researchers.

Elonkierto is an outdoors science park, located in Jokioinen. Jokioinen is a small municipality, over 5000 inhabitants and is located in south-western part of Finland, about one hundred kilometer from our capital Helsinki. Elonkierto tells about Finnish agriculture, both past and present. It also introduces research that is carried out at Luke. The idea is to tell about research in a more concrete way than just through papers and Power Point presentations.

Total area of the park is 20 hectares.

Park was opened in 1998 and several new targets have been built during these past years. Latest new target was built in 2015 for international soil year and next one will be built in summer 2018.

The tour is done along the path, which is two and half km long. There are several sections like history, soil, environment, crops, animals, machines, water protection, weeds and climate change.

Picture 1 *Map of Elonkierto. Kaarina Toivanen, Luke's photo archive*

History part of Elonkierto

In the beginning of Elonkierto path, near the main gate there is the history part. Old agricultural landscape is presented with medicine plants and hops. All the

herbs have their own presentation signs where is told the old usage of this herb. For example some herbs for example hyssop and southernwood where used to keep awake during long ceremonies in churches.

Hops were needed for brewing beer. The acids and essential oils in the hop cones enhance the clarification of beer, improve its shelf life and give it its typical bitterness. Hop cultivation was already mandated to be obligatory during the middle ages, so every house had to have its own hop garden. In southern Finland during the 16th century, it was typical that part of the taxes was paid with hops. Hop was also used as a medicinal herb (for example ear pain), and as a fibre plant. Old machines and traditional rail fences offer interesting perspective to former agriculture and working methods. This part is very various, but usually only guiding and stories bring it more alive to the visitors. There are no signs to tell about usage of these machines, so younger generation has usually quite wild guesses.

Animals

At the history part of the park lives also hens and a rooster. These hens are original Finnish breeds, like most of the animals in Elonkierto. They are very colourful and impressive looking. These hen breeds are named after the place where they have originally been found. The hens in Elonkierto are originated from Piikkiö. Piikkiö is a small municipality near Turku.

We have also cows in Elonkierto. In Finland we have 3 traditional fin cattle breeds: eastern (picture 2), western (picture 3) and northern. Old story tells that kyyttö´s has got their name because of same back figure as Finnish snake, kyy. The back figure on our snake is saw-edged.

Picture 2 *Eastern Finnish breed, a heifer called Lutukka. Anneli Nuoranne, Luke*

Picture 3 *Western Finnish breed. Jenna Vaha, Luke's photo archive*

We also have northern breed cow, the colour mostly white with small black marks. These native breeds are very social and enjoy visitor´s company.

These breeds tell us about the history, but there are plans to increase their usage so that they could be more than show animals, especially kyyttö has been target to product development, it´s milk is quite greasy, and it fits for many products like cheese. Also kyyttö´s meat has delicate taste.

Perhaps most popular animals are goats. They are used to visitors and very social.

Also sheep, horses and pigs can be seen in Elonkierto.

Soil, plant breeding and growing factors

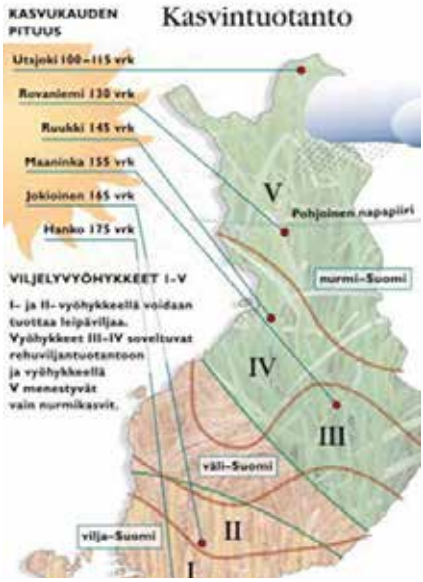
After history part you can find area, which is demonstrating the basics of agriculture, like soil and growth factors. This is done very illustrative way for example by exhibiting all Finnish soil types. Soil is not just 'mud' but is a complex ecosystem consisting of minerals, organic matter, water, air, roots, microbes and other soil organisms. After the middle of the 19th century the yield levels started to increase, when researchers began to better understand the importance of soil to plant growth.

In modern research, essential topics include the effects of cultivation methods on soil structure and biology, and environmental questions regarding soil. Elonkierto demonstrates soil chemistry, physics and biology. The park includes points of interest for soil types, soil acidity and organic matter content, and the nitrogen cycle from fertilizer to food.

Nitrogen is often the most growth limiting factor. The amount of available nitrogen in soil varies during the growing season as a result of fertilization, soil microbe activity, nitrogen uptake by plants and various losses. The nitrogen cycle tells what happens to the available nitrogen that is present in soil and given in fertilizers during a year. The path starts in May when nitrogen fertilizers are applied to the fields and ends in April of the following year. The incoming tracks joining the path represent additional nitrogen input that is available to plants and the outgoing tracks represent nitrogen losses. The width of the cereal growth around the path indicates the amount of nitrogen taken up by the plants and the yield, look at picture 4.

Picture 4 *Nitrogen cycle in Elonkierto. Pentti Raiskio, Luke*

Finland is the northernmost agricultural country in the world. Plant production is limited by low temperatures, a short growing season and, in some parts, by summer frosts. In southern Finland, lack of water is also often a growth limiting factor. The natural conditions for plant production get worse towards the north, and the country is divided into cultivation zones based on the climate. Bread grain production is possible in the two southernmost zones (zones I and II), zones III and IV are suitable for feed grain production, but in the northernmost zone (zone V) only grass production is successful.



Seven percent (2.3 million hectares) of the Finnish surface area is agricultural land. The cultivated field area, 2.2 million hectares, is divided between different plants as follows: grains (barley, oat, wheat and rye) 45%, grass 32%, fallow 12% and other plants 11% (year 2017).

Elonkierto begins its introduction to the Finnish cultivated plants with cereals, followed by the oil plants, pulses, fibre plants and buckwheat. First species in the demonstration area are old ones, which are not cultivated anymore. These old species tell us about the past needs of cereals. Not only the cereal was important, but also straws were used as animal feed or as a

Picture 5: *Osmo Leppälä, Luke's photo archive*

litter. That is why straws were longer than in today´s cultivars. These are followed by currently cultivated varieties, which have been bred for specific purposes. The last cultivars are cultivars of future years.

Climate change

In the greenhouse effect, the gases in the Earth's atmosphere restrict the exit of solar radiation energy into space. Without the greenhouse effect the Earth's surface temperature would be on average –18°C and the Earth would be inhabitable. The greenhouse effect strengthens when, as a result of human activities, more greenhouse gasses are released than would naturally be released. The greenhouse effect is caused by the use of fossil fuels, changes in land use and agriculture, among others. The most important greenhouse gases are methane (CH^4), nitrous oxide (N^2O) and carbon dioxide (CO^2).

The climate change demonstration in Elonkierto is made based on the estimation that the Earth's surface temperature will increase by 1.4-5.8°C by year 2100. In small greenhouse you can see how the climate change would affect to the Finnish agriculture. On the right side there are some plants which would benefit from the warmer temperature. On the left side there are some plants which could not be cultivated even if the temperature will rise, mainly due to the long photoperiod during the summer in the North. Behind the greenhouse the demonstration describes how the agriculture contributes to climate change and how it could be mitigated. In this area we tell about the greenhouse gas emissions. Agriculture contributes 20 % of them globally, in Finland corresponding % is 11 (2016).

Dining table – what do the Finns eat?

Elonkierto dining table demonstrates what is grown in Finnish fields and what size field areas are needed to produce raw materials for various food products per one average Finnish consumer in a year.

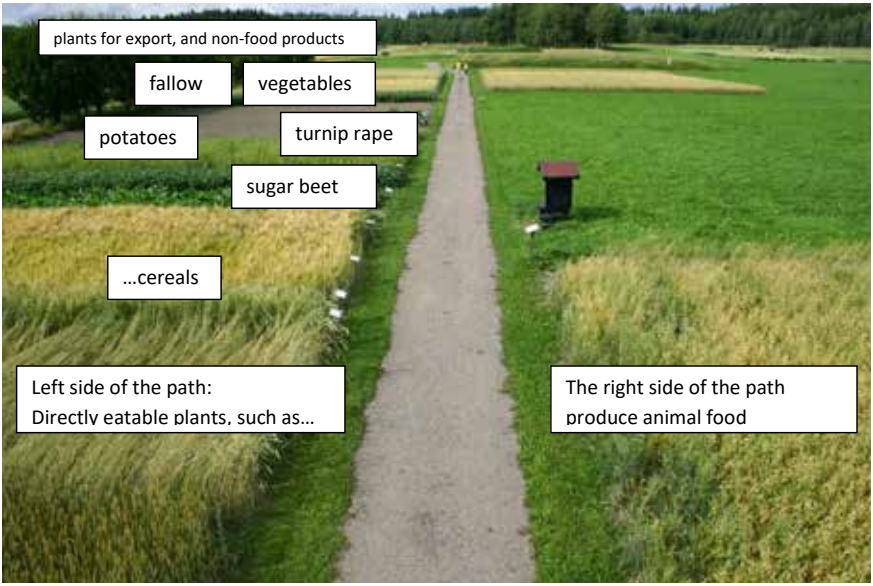
During the hunting, fishing and fallowing period, one Finn needed tens of hectares of forests and waters for food gathering. Even burn-beating still required large areas. To satisfy the annual needs of one person for grain, about 5 ha of land, which was suitable for burn-beating, was needed when the land was burned every 40 years. Field cultivation and the two-year crop rotation made it possible to produce a similar diet on 5 ha for 12 people. With modern cultivation methods, a 5 ha field gives the same amount of cereal to 80 people.

The development and intensification of agriculture to its current form has contributed to the huge population growth. The cultivated field area in Finland

is about 2,200,000 hectares which means that there are 0.42 ha of fields per inhabitant. Globally, there are 0.2 ha of fields per person.

Finland is primarily self-sufficient in the most important food products. The self-sufficiency level for vegetables is 65 - 70 % and for sugar about 40 % (2014). Eggs are produced in excess for domestic consumption, but more meat products are imported than exported. Protein rich animal feed needs to be imported to Finland, and, at the same time, feed grain is exported.

Eating animal products increases the need for field area. No less than 80 % of the field area is used for animal feed production and only 20 % for directly edible plant products. Almost half of the Finnish field area is needed just to feed the cattle.



Picture 6 *Finnish dining table in Elonkierto. Pentti Raiskio, Luke*

Agricultural of the future is also presented as two plausible scenarios. Other scenario present innovative and positive future, in other scenario there is no agricultural activities anymore in Finland.

Visitors and events

Biggest user group of Elonkierto are the people living nearby. Mostly they are families with children, who are enjoying landscape and animals.

Different kind of groups are also visiting in Elonkierto and autumn is the time for schoolchildren. There are usually guided tours to the schools according to their needs and wishes. Feedback has been very positive, this is very important to many children to learn in practice. Costs of transportation have been in many cases limiting factor to school visits.

During summer we have some guided tours according to special themes. In these tours Finland's best specialists tell about the current topics and the audience can ask questions and take part to the discussion. We have had topics like: the history of agriculture, herbs and wild vegetables, farm animals, birds, game, crops, agricultural landscape, agriculture of the future, various topics of food, green care etc.

Most popular event has been The Children's Agricultural Exhibition Mansikki. About 4500—5000 visitors take part of this event. There are usually several exhibitors, many work demonstration and a lot of activities for children. In Mansikki children can meet also some animals which are not usually living in Elonkierto, such as alpakas, mangalicas (sheep pigs), highlanders and donkeys.

Under the Science canvas Luke's researchers make the science more concrete and understandable to the children. In the Science canvas it is easy to demonstrate how much one cow drink or eat and how much does it milk. Children can also try how does it feel to milk a" cow" in old-fashioned way with hands and also try old-fashioned amusing: jumping in straw mass.

Nature clubs has been organized for children since 2001. The nature club is meeting about 5 times per summer, and about 30-40 children take part per evening. This has been organized with voluntary work mostly. The age of the participants has decrease since the starting times. Most of participants are about five to seven years, even younger. Themes of the clubs have been cultivation and harvest of potatoes and onions, animals, insects, soil, worms, making bath whisk and flower buckets.

In summer 2017 we started science nature club for 8 year and older children. It was just a test in 3 evenings. Researcher worked as teachers and there is more nature connecting issues and practical experimental things. In cattle evening children made butter with churn, in plant evening they learned how to identify plants, and in soil evening children can study soil types and get to know earthworms. The feedback we got was so good that we decided to go on with the science nature club. In summer we will have 5 evenings, new themes are insects and how the calves are produced today.

Latest project "Developing the Agricultural Exhibition Park Elonkierto" started spring 2017 and will be finished by the end of 2018.

In the future our goal is to profile Elonkierto as a science and bio-economy park and bring information across the most modern techniques. The aim is demonstrating Luke´s latest research and current projects more understandable way, for example by using the digital technology. The aim is also to involve new partners and find new ways to co-operation. The goal is to increase the sense of community by activating the inhabitants in the region, especially young people.

In summer 2018 we will build a new demonstration. The idea in this new target is to tell about Luke's research even more various than before. For example we will demonstrate the new products of the forests and also we will have a target telling about the game and hunting research. Each of the Luke's multidisciplinary research programs, Boreal Green Bio-economy, Innovative Food System, Blue Bio-economy and Bio-Society will participate in this new area.

Elonkierto is supported by LUKE´s budget money, but also different kind of projects, like Ernie and Eco Learn, have been supporting the development of Elonkierto.

The park is open during summers and entry is free of charge. Elonkierto is a park, where you can use all your senses. Listen to singing birds, feel the smell of green grass and see relaxing country landscape. Animals live their day leisurely and if you are lucky, you can get the same feeling can shift to you. Carpe diem!

Klara Sielicka-Baryłka
Social Media Curator/Ethnographer/Wikipedist
National Ethnographic Museum in Warsaw, Poland
klara.sielicka@gmail.com

HOW CAN OPEN-AIR MUSEUMS BE MORE VISIBLE THANKS TO WIKIPEDIA?

With the rising number of new museums and innovations implemented in the already existing ones, both the officials responsible for the museums and museum employees should be regularly asked about the best way of getting information across to visitors, how to mark their presence on the cultural map of local and European heritage.

At conferences and in publications a lot of experts join the dispute about the direction museums are going by noticing the issue of receiving the information about these changes by those to whom the offer is directed. Traditional channels, such as leaflets found on reception desks, websites of local communities or culture centres or even museum websites do not always fulfil their task, considering the fact of global transit of tourists from various parts of the world through the so-called points of educational and cultural experience. Not only small museums experience this phenomenon, ones that often limit their information to local languages and present it as unclear, not exactly modern layout and form. Larger centres have been remodelling their websites only since recently, getting the

know-how at dedicated international meetings (such as the We are Museums conference), adding language versions even for such "exotic" countries like China (for example the Versailles). As far as open-air museums are concerned, a Polish project Skanseny.net (http://skanseny.net) is quite interesting - not only does it have a website (since 2009) with Polish and English descriptions of open-air museums in Poland, but it is also a "database of cultural events and a digital database of over 4,000 museum photos." The project's authors - Stowarzyszenie 'Pracownia Etnograficzna' has also a blog skanseny.blogspot.com, with open-air museum trivia and invitations.

Museums, including open-air museums, can significantly improve their reach by having a dedicated Wikipedia page. Studies show that the first thing a user does, almost automatically, when searching for information about a place, is entering its name (or even an approximated name) in the Google search engine (not the target website address in the address bar), which... directs them to a Wikipedia entry or to the Knowledge Graph results generated with Wikipedia data. Even if the search results are not at the 1st place, probability is high that the given open-air museum will be among the first five of the offered addresses.

A good example illustrating the presence of open-air museums in Wikipedia is one of the GLAM projects, named Ethnography of the Carpathians on Wikipedia and Wikimedia Commons (or: Carpathian Ethnography project https://en.wikipedia.org/wiki/Wikipedia:GLAM/Carpathian_Ethnography_Project), where teams consisting of Wikipedians, scientists and volunteers gather reference material, then conduct 5 Wiki-excursions to key locations in the Carpathian region (Poland, Southwest Ukraine, Czech Republic, Slovakia and Romania), to photograph, record and film traditional folk dress and folk artwork (sculpture, artisan objects, cultural artifacts) uniquely representative for traditional Carpathian culture. A set of several dozen articles in 6 languages is written or expanded and illustrated by this material. The project received a subsidy from Wikimedia Foundation for June 2016 to end of 2017 and is carried out by the National Ethnographic Museum in Warsaw and Wikimedia Poland. In April 2017 Wikimedia resources already had over 900 files in the category Carpathian Ethnography Project on Wikimedia Commons and a lot of articles, in different language versions, including information about open-air museums from Poland, Romania and Czech Republic (Slovakian and Ukrainian content will appear in Summer 2017).

The GLAM-Wiki initiative ("galleries, libraries, archives, and museums" with Wikipedia) helps cultural institutions share their resources with the world through collaborative projects with experienced Wikipedia editors, that's why it could be a great way for open-air museums to achieve a new level of their development plan. There are local GLAM - coordinators in many countries, so open-air museum`s staff can contact them and discuss further cooperation.

Summary:

a Wikipedia article about our open-air museum is a chance to stand out, especially if the article has different language versions.

If our open-air museum does not have its website/the website is not being developed/taken care of, in only one language - a Wikipedia entry will not only present the place to the world, but the article is going to grow, when new bigger or smaller changes are applied, illustrations from Wikimedia Commons repository.

Our open-air museum and, for example, other friendly/networked/on a tourist route etc. will be easier to find and connect, if they're in Wikipedia. Why? Because the links to the articles about them can be found in one place - category.

When creating a new article about our open-air museum or by expanding an already existing one, employees have an opportunity to review the sources about their museum, therefore building solid bibliography and references sections.

The decision to create an article about their museum might be an opportunity to draw, for example, volunteers (e.g. during summer traineeship or educational course for adolescents), who by documenting exhibitions, collections, environment, enrich both visually and literary the corpus of information about the museum, its history, biography of the people who have been creating it.

I cooperated with Polish wikipedians, working on this article.
https://meta.wikimedia.org/wiki/Wikimedia_CEE_Spring_2017/Carpathians_

Panel discussion

How can museums contribute to addressing today's agricultural and rural challenges?

Moderator: Rando Värnik

It is necessary to carry forward, from one generation to another, the knowledge of how food gets on the table of a consumer and how important the consideration of environmental conditions is, when it comes to food production. This means educating the public, offering information to our society about the aspects of food production, about the changes in time that come with it as well as about the changing technologies.

We discussed the need to draw out cross-cultural, self-reflexive, and interconnecting threads, with value for research, museum practice, and for the practice of those outside our sector. We explored how to understand sustainability through the eyes of past social actors and how such perspectives might shape future discourse or meet future challenges. However, we also acknowledged that museums operate in the present and provide a useful context for uniting past and future, for using sustainable traditions to solve challenges ahead. The dangers of presentism notwithstanding, we recognise the need to operate in real-time ways that serve audiences, stakeholders, and collections.

Lately we are talking more about climate change in the world, and solutions are sought after how to cultivate land and carry out animal husbandry in an environmentally-friendly way. We cannot revert to historic ways of agriculture fully to ensure global food safety, but we can revive our forefathers' know-how to be used on a new level. Sustainable intensification is the new keyword which is more and more talked about connected to global food safety. Explaining all these changes and preserving our historical memory, is the challenge of our museums as well as how to do it in the best way so that their importance would grow in the field of education.

List of Participants

A

Cameron Archer
Belgenny Farm Trust,
Australia

Vera Artamonova
Complitech

Toomas Asi
Estonian Agricultural Museum,
Estonia

Marie-Christine Aubin
AFMA/AIMA,
France

B

Henning Baatz
AIMA,
Germany

Birgit Baatz
AIMA,
Germany

Chantal Bisschop
Centre for Agrarian History, Leuven,
Belgium

Kerry-Leigh Burchill
Canada Agriculture and Food Museum,
Canada

C

Indra Cekstere
Riga Latvian Society,
Latvia

Helena Cviklová
Wallachian Open Air Museum in
Rožnov pod Radhoštěm,
Czech Republic

D

Maiga Davõdov
Estonian Agricultural Museum,
Estonia

Edouard de Laubrie
National Museum of Civilisations of
Europe and the Mediterranean,
France

Pierre Del Porto
AFMA FED DES MUSEES
D'AGRICULTURE ET DU PATRIMOINE
RURAL/AIMA,
France

Oliver Douglas
Museum of English Rural Life,
United Kingdom

E

Malle Elvet
Journalist,
Estonia

F

Anne Jorunn Froyen
Jærmuseet,
Norway

G

Cozette Griffin-Kremer
AIMA CRBC-Brest SFLS,
France

H

Julia Hanulewicz
National Museum of Agriculture and Food Industry in Szreniawa, Poland

Rao Heidmets
Artist, Estonia

Elsa Hietala
SARKA – The Finnish museum of Agriculture, Finland

Piret Hion
Estonian Agricultural Museum, Estonia

Jacques Holtz
France

Hisashi Horio
Kobe University, Japan

Isabel Hughes
Museum of English Rural Life, United Kingdom

I

Hanna Ignatowicz
National Museum of Agriculture and Food Industry in Szreniawa, Poland

Erika Illisson
Estonian University of Life Sciences student, Estonia

Kaire Ilula
Estonian Agricultural Museum, Estonia

Tiina Ivandi
Estonian Agricultural Museum, Estonia

J

Ildike Jaagosild
Estonian Agricultural Museum, Estonia

Monika Jõemaa
C. R. Jakobson Farm Museum, Estonia

Kaja Jürgenson
Estonian University of Life Sciences student, Estonia

K

Külli Kaare
Ministry of Rural Affairs, Estonia

Kerle Kadak
Estonian Agricultural Museum, Estonia

Liina Kaljula
Ministry of Rural Affairs, Estonia

Riine Kallas
Harju County Museum, Estonia

Kateryna Kalyzhna
Home baker, Ukraine

Toomas Kevvai
Ministry of Rural Affairs,
Estonia

Laura Kipper
Estonian History Museum,
Estonia

Marija Kiveste
Estonian Agricultural Museum,
Estonia

Katrin Kivi
Estonian University of Life Sciences
student, Estonia

Urmas Klaas
Mayor of Tartu,
Estonia

Mait Klaassen
Estonian University of Life Sciences,
Estonia

Šárka Kramolišová
Wallachian Open Air Museum in
Rožnov pod Radhoštěm,
Czech Republic

Claus Kropp
Lauresham Open Air Laboratory for
Experimental Archaeology,
Germany

Paulina Kryg
National Museum of Agriculture and
Food Industry in Szreniawa,
Poland

Vahur Kukk
Estonian Rye Association,
Estonia

Krista Kulderknup
Organic Estonia,
Estonia

Mare Kõiva
Estonian Literary Museum,
Estonia

Helene Kõiv
Agricultural Research Centre,
Estonia

Karl Käärik
Estonian Agricultural Museum,
Estonia

Kaarel Kütas
Artist,
Estonia

L

Heino Laiapea
Agronomist,
Estonia

Joel Leis
Open Air Museum,
Estonia

Illar Lemetti
Ministry of Rural Affairs,
Estonia

Liina Lemsalu
Estonian Agricultural Museum,
Estonia

Monika Levkin
Estonian Agricultural Museum,
Estonia

Emily Lindsalu
Estonian Agricultural Museum,
Estonia

Andra Liibek
Estonian University of Life Sciences
student, Estonia

Evelin Loit
Estonian University of Life Sciences,
Estonia

Merlin Lumiste
Estonian Agricultural Museum,
Estonia

Elo Luttsepp
Open Air Museum,
Estonia

M

Meelis Maks
Estonian University of Life Sciences
student, Estonia

Aune Mark
Open Air Museum,
Estonia

Dorota Matela
National Museum of Agriculture and
Food Industry in Szreniawa,
Poland

Felicity McWilliams
Museum of English Rural Life,
United Kingdom

Kristel Meelits
Estonian University of Life Sciences
student, Estonia

Laivi Mesikäpp
Estonian Culinary Route,
Estonia

Anu Mikk
Estonian University of Life Sciences
student, Estonia

Kaire Miljan
Cannabis Ltd, Estonia

Mati Mänt
Estonian Agricultural Museum,
Estonia

N

Elvi Nassar
Open Air Museum,
Estonia

Kadri Nigulas
Ministry of Culture,
Estonia

Annely Noobel
Estonian University of Life Sciences
student, Estonia

Anneli Nuoranne
Natural Resources Institute Finland,
Finland

Reelika Närap
Estonian Agricultural Museum,
Estonia

O

Sezen Ocak
TOGEN Livestock and Research,
Turkey

Jindřich Ondruš
Valašské muzeum v přírodě v Rožnově pod Radhoštěm,
Czech Republic

P

Andreea Mihaela Panait
National Museum of Agriculture,
Romania

Kadri Parm
Estonian Agricultural Museum,
Estonia

Arnold Pastak
Olustvere School of Service and Rural Economics,
Estonia

Margita Poriete
Latvian Society of Riga,
Latvia

R

Tone Ravnås
Jærmuseet,
Norway

Debra Reid
The Henry Ford,
United States of America

Kadi Ruumet
C. R. Jakobson Farm Museum,
Estonia

Anna-Kristina Rätsep
Estonian Agricultural Museum,
Estonia

S

Mart Salumaa
Estonian Agricultural Museum,
Estonia

Surajit Sarkar
Centre for Community Knowledge,
Ambedkar University,
India

Yves Segers
Interfaculty Centre for Agrarian History, University of Leuven,
Belgium

Martin Sermat
Digitalization Centre Kanut Open Air Museum,
Estonia

Mari Siiner
Digitalization Centre Kanut Open Air Museum,
Estonia

Merli Sild
Estonian Agricultural Museum,
Estonia

Raili Sillart
Ministry of Rural Affairs,
Estonia

Barbara Sosič
Slovene Ethnographic Museum,
Slovenia

T

Iti Toom
Seto Handicraft Association,
Estonia

Natalia Trofimenko
National Sholokhov Museum-Reserve,
Russia

V

Jaana Vaio
Räpina School of Horticulture,
Estonia

Ell Vahtramäe
Estonian Agricultural Museum,
Estonia

Katrin Vask
Tartu Municipality,
Estonia

Marja-Liisa Vieraankivi
Natural Resources Institute Finland,
Finland

Marat Viires
Estonian Agricultural Museum,
Estonia

Kaarel Vissel
Estonian Agricultural Museum,
Estonia

Liis Volli
Estonian University of Life Sciences,
Estonia

Margus Väli
Estonian Agricultural Museum,
Estonia

Rando Värnik
Estonian University of Life Sciences,
Estonia

Marje Võsso
Estonian Agricultural Museum,
Estonia

W

Pamela Warhurst
Incredible Edible,
United Kingdom

Peter Watson
ALHFAM,
United States of America

Mary Watson
ALHFAM,
United States of America

MINUTES

The General Assembly of the 18th International Congress of Agricultural Museums

Date: Friday, 12 May 2017

Location: Assembly Hall,
Estonian University of Life Sciences,
Tartu, Estonia

17:30 Meeting called to order by President, Ms. Merli Sild (Piret Hion); designated Kerry-Leigh Burchill as official chair of meeting. Burchill welcomed General Assembly (AIMA members).

Holders of Proxy: 45 present or represented out of 57 members – quorum confirmed. List of proxies with holders of proxies recorded at registration desk. Voting required to affirm reports (3 options: agree, disagree, abstain).

Burchill thanked Sild and her staff for hosting the congress. AIMA members affirmed.

Approval of 2014 General Assembly Minutes (Burchill): Reviewed by General Assembly in 2015; summary in French and English required; published on AIMA website and in Journal Officiel de la République française. Approved 45 votes (unanimous).

Report of President Sild read by Hion. 2014 Congress introduced Estonia as host of 18th Congress (2017 May). June 2015 AIMA president and secretary general participated in ICOM as affiliate member and represented AIMA at international expositions to maintain AIMA visibility in international museum community. ICOM minutes documented AIMA's participation and mission (publication in Newsletter)

Report of Executive Secretary (Dr. Cozette Griffin-Kremer). Outgoing secretary general report read and approved by Exec Com. Members approved the report for publication in the newsletter and filing in the archive.

Report of Treasurer (Mr. Pierre Del Porto), 2014-2015-2016. Expenses include filing fees for legal register (Journal Officiel de la République française),

change of official address to COMPA, opened bank account; launched PayPal buttons on website for dues, and this requires a commission fee to PayPal. Revenue includes dues 2530.75 Euros TOTAL: 2276. 04 Euros. Approved 45 votes (unanimous). Del Porto requested those paying with wire transfer confirm payment with Secretary and Treasurer. Directions will appear in Newsletter. Give "quitus" (vote of confidence) in Del Porto. Approved 45 votes (unanimous). Audit Committee (independent of Treasurer); members Petre, Watson, Sheridan reviewed financial report in March 2017 (ending Dec. 31, 2016). Figures compliant with budget. Burchill informed the membership that Del Porto will start using a different branch of the same banking institution. Approved 45 votes (unanimous).

Membership (Mr. Del Porto): table of numbers of members, presented for information to members.

AIMA Budget, Provisional, 2017-2020 (Mr. Del Porto): Expenses: office supplies; translation fees (Newsletter and Internet); website fees and expansion; PayPal commission TOTAL: 1300 Euro. Revenue: membership increase of 5-10 as goal. No fee increase to keep AIMA an affordable organization; fees remain 10 Euros (Individual); 40 Euros (Institution). 70 members for 1300 Euros. Approved 45 votes (unanimous). Membership fees approved as existing. Approved 45 votes (unanimous).

Statutes (Burchill / Reid): Discussion of proposed changes to Statutes, discussed at three Executive Committee meetings. Revisions/Clarifications: ICOM ethics; member benefits with institutional vote of 3 rather than 1; clarify role of executive committee officers and advisors. The Executive Committee requests that the AIMA members take time to review and convey their opinions (by July 31); the Executive Committee will review and approve changes (2018 Exec Com meeting). 45 approvals (Unanimous).

Nominees for AIMA Executive Committee (Secretary, Dr. Griffin-Kremer presiding; Burchill excused herself; Hughes excused herself). President: Douglas; First VP: Hughes; Second VP: Reid; Treasurer: Del Porto; General Secretary: Burchill; Counsellors: Sild, Griffin-Kremer, Baatz (Kropp, alternate), Sarkar, Horio, Ignatowicz, Petre (Auditing Committee), Sosič (Auditing Committee), Watson (Auditing Committee). Discussion about meaning of the term "alternate" and the purpose of the designation. 43 votes (unanimous).

Location of CIMA 19 (2020) (Hughes): Museum of English Rural Life, Reading, England, shared a 3-minute film on "Our Country Lives," a new exhibit in the rural museum, situated on the University of Reading campus in the city of

Reading. Executive Committee unanimously recommends acceptance. 2023 congress proposals welcomed at any time. Exec Com is exploring India.

Business from the Floor: Del Porto reported that the signatures on the bank account include: Exec Com President, Treasurer, Executive Sec., and one Independent Observer (Griffin-Kremer 2017). Signers must physically appear at the bank branch. Approved 45 votes (unanimous).

Adjourn 18:35 Griffin-Kremer moved; Hughes seconded. Unanimous approval.

Note: provisional text, to be offically voted for approval at the next AIMA general assembly.

Post-Congress Tour

Flock of sheep at the Farm Museum of C. R. Jakobson

Day 1. Sunday, 14th May 2017

Tartu - Olustvere - The Farm Museum of C.R. Jakobson, Kurgja - Muhu island - Kuressaare island

Olustvere is situated in Middle-Estonia in Viljandimaa, on the northern edge of Sakala uplands. Olustvere Manor complex stands out for its architecture, park which is rich in species and very well preserved unique manor complex. The complex offers a wide range of workshops and activities – it is possible to get familiar with smithery, handicraft, linen and patchwork, ceramics and glass blowing, bakery, stables (permanent exhibition of miniature wooden horse figures of Voldemar Luht, collection of stuffed birds and animals of Ilmar Tilk); horse riding and last, but not least, domestic animals enjoying their everyday lives. These different activities are divided into separate buildings which have been renovated and are used for exhibition displays and holding workshops.

Miniature wooden horse figures of Voldemar Luht. Photo: Pierre Del Porto

Olustvere School of Service and Rural Economics is located in Olustvere in Suure-Jaani parish in central Estonia. Today, the school is an agriculturally oriented vocational school managed by the Ministry of Education and Science. The school also owns the most fully preserved manorial estate, which includes 29 buildings, in the Baltic States. The school has three main areas of specialisation: agriculture, service and food processing. The school unites three areas of rural life into one unified food product chain, starting with producing the raw material, continuing with processing and preparing the food and ending with service. The school has a study farm, which was created in 1994. The school owns 507 hectares of land. In addition, the study farm also uses about 330 hectares of rented farm land. The farm has contemporary technical equipment for applied study.

The Farm Museum of C.R. Jakobson was established in 1948 and its first director was Jakobson's oldest daughter Linda. Buildings needing partial or complete restoration have been restored by today. The main house of the museum includes an exhibition which introduces the life and activities of C.R. Jakobson. As a new building, the threshing barn and grain dryer have been completed according to the project of C.R. Jakobson. The museum is special due to an active farm with cattle-breeding and land cultivation. Estonian country breed cows, white-headed sheep, Estonian horses, rabbits, roosters, hens and turkeys are a true feast for the eye.

Koguva village on the west coast of Muhu island is a remarkable example of Estonian peasant architecture, that has fascinated ethnographers already in the beginning of the 20th century.

The village with exceptional history in its quaint landscape and well-preserved farm buildings, for a long time, has been known in Estonia as the birthplace of an Estonian writer Juhan Smuul. Koguva became a popular travel destination already during the writers lifetime and the first exhibition was opened after his death in 1971. In 1973 Juhan Smuul"s Museum was opened as a branch of nowadays Saaremaa Museum. In 1979 30,4ha of land was given to the museum, and the museum was renamed Juhan Smuul"s Memorial and Koguva Open Air Museum.Since 1990 the museum is called Muhu Museum and is an institution of Muhu parish

The windmill was built in 1899. This windmill was in working order until 1941. When the war began, the sails were sawn off in order to avoid the enemies to use then for signalling. It is known from the history that during World War I the French, using the sails, gave signals about the movement direction and even about the number of enemies to their own troops. From 4 January 1974, the windmill has been a catering establishment, which makes it the oldest operating catering establishment in Kuressaare.

Day 2. Monday, 15th May 2017

Tehumardi Battlefield - Sääre Military Museum - Kaugatoma Cliff - Kuressaare castle and city tour - dinner at Kuressaare Kuursaal

The exhibition of the military museum in the former guard station of Sõrve. This exhibition consists of different marine, military as well as farm objects characteristic of the island.

The main building of the guard station, the military museum, is divided into thematic rooms. In addition to six main rooms, there will soon be a library. One example of thematic rooms is the dining room, where all the objects related to cooking and eating have been gathered. There is also a room dedicated to the Soviet era, and two for the world wars.

Kuressaare is the capital of Saaremaa. The city, located at the Livonia Bay, has a territory of about 15 sq.km and a population of about 15 000. The medieval episcopal Kuressaare Castle today houses the Saaremaa Regional Museum. The Medieval convent of the castle is the only one in the Baltics that have survived without any significant reconstructions being done to it which, from the architectural aspect, gives it an international importance. Having been erected in the 13th century it had 1650 soldiers serving there in its glory days at the end of the 17th century.

It is believed that a local pharmacist came up with the idea of building a Kuursaal (resort hall). Construction took eight months, and it was officially opened on 11 June 1889. In the centre part, the so-called White Hall, housed a restaurant, while the right wing was home to a summer theatre and the left wing was used for a kitchen area and offices. The theatre mostly hosted performances by ensembles from Germany, but Estonian actors started appearing here after World War I. In 1989 the kuursaal was named 'Best Building in Soviet Estonia 1988. Today the Kuursaal accommodates a cafe, concerts and an open air cinema. There are cosy rooms in the guesthouse on the second floor.

Day 3. Tuesday, 16th May 2017

Panga Cliff - Angla Windmills - Ferry to Tallinn - Estonian Open Air Museum - dinner at Kolu Tavern

The Panga Cliff stands, stark in colour, at a maximum height of 21.3 m, and runs for about 2.5 km! A vast slate, as all cliffs of Saaremaa is, wall reaching straight up from the surrounding beach, the cliff impacts its environment in an interesting way. A couple of hundred meters away from the cliff, the sea experiences a steep slope - visible on stormy days when onlookers can watch a line of foamy waves develop. At the highest point of the cliff, there is an ancient sacrificial site where people used to sacrifice to the sea.

The only remaining group of windmills on Saaremaa is located in Angla. It is the only one remaining windmill hill on Saaremaa. In 1925, when the village of Angla consisted of 13 farms, there were nine wind catchers on the hill. At one time, these open to the winds hills of windmills were a common sight on Saaremaa. When the people were more agrarian, grew their own wheat and rye, and made their own bread, every self-respecting village had a group of windmills to grind the grain.These windmills could be turned towards whatever wind was blowing at the time.

Just 15 minutes from the city centre of Tallinn, you find Estonian Open Air Museum, showcasing the country's rural architecture and way of life. The 14 farms in the museum provide an overview of how families from different strata of society lived in the 18th, 19th and 20th centuries. As you might expect to find in any proper village, there is a church, an inn, a schoolhouse, mills, a fire station, a shop and fishing sheds by the sea. At the museum, you can buy handicrafts, ride horses, and try traditional Estonian dishes at the inn.

Details of the post-congress tour are available at
http://cima2017.publicon.ee/programme/post-congress-tour/

Please visit http://cima2017.publicon.ee/programme for detailed information about the Congress.

http://cima2017.publicon.ee/programme/field-trips/
http://cima2017.publicon.ee/programme/study-tours-in-tartu/

Introductory video is available at
https://www.youtube.com/watch?v=TvcGjfnYLsU

Estonian Agricultural Museum, Ülenurme Manor Estate, Estonia
Photo: Marat Viires

Congress organisers and venue
info@maaelumuuseumid.ee
+372 738 3810

For more information on congresses and proceedings of the International Association of Agricultural Museums (AIMA) please visit
https://www.agriculturalmuseums.org/news-events/triennial-congress-cima/

Eesti
Põllumajandusmuuseum

Maaeluministeerium