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The Crisis of the 14th Century: 'Teleconnections' between Environmental and Societal Change? Martin Bauch, Deutsches Historisches Institut, Rom; Gerrit J. Schenk, Technische Universität Darmstadt; in association with the DFG-Project 'Vulnerable Societies', 24.02.2016—26.02.2016.

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The Crisis of the 14th Century: 'Teleconnections' between Environmental and Societal Change?

There has been a great deal written about the crisis of the 14th century over the past decades. To give only a few examples: Ferdinand Seibt / Winfried Eberhard (eds.), Europa 1400. Die Krise des SpÃ¤tmittelalters, Stuttgart 1984; FrantiÅ¡ek Graus, Pest â Geissler â Judenmorde. Das 14. Jahrhundert als Krisenzeit, GÃ¶ttingen 1987; Peter Schuster, Die Krise des SpÃ¤tmittelalters. Zur Evidenz eines sozial- und wirtschaftsgeschichtlichen Paradigmas in der Geschichtsschreibung des 20. Jahrhunderts, in: Historische Zeitschrift 269 (1999), pp. 19â55. Thus, it was the obligation of the conference at the German Historical Institute (DHI) in Rome to show that there is still something new to contribute. Participants as well as organizers fulfilled this task in at least two different ways: firstly, they expanded research to still insufficiently investigated regions of the world; and secondly, they took it as an opportunity to cooperate with the sciences.

A broad range of different topics and study areas were addressed at the conference. While one may note, not surprisingly, a focus on Central Europe, some of the participants extended their research as far as Finland, Jerusalem and even China. The majority of the speakers consisted of historians; however, there were also a good deal of interdisciplinary approaches complemented, for example by archaeology, geography or climatology. The main question of the conference concerned the teleconnections, or in other words, the complex interdependences between climatic and societal change. Instead of summarizing all contributions, only a selection of the papers, topics and approaches will be addressed here.

One frequently discussed issue worthy of mention is the problem of determinism or the âMalthusian trapâ, which was particularly addressed in PHIL SLAVINâs (Canterbury) contribution. Based on the question âWas Malthus right?â he questioned the role of demography as a cause of late-medieval famines on the basis of manorial accounts and tithe receipts, using the example of Great Britain. Slavin showed that, according to the calorific intake model, for the majority of the population, supplementary food purchase was necessary for survival. In times of crop failure, when grain was scarce and the prices rising, people reliant upon the market were destined to stay hungry. On this basis, one could easily deduce a Malthusian determinism, which would not be correct according to Slavin. At this point, he introduced the so-called complexity theory that stresses the influence of local as well as regional differences and multiple factors. Following Malthusâ reasoning, there would have been no famine between 1315 and 1317 in the thinly populated areas of England, but actually there was just as much hunger as there was in regions with a denser population. Slavin attributed this fact to the war against Scotland and corrupt castle officials. By way of contrast, the climatically comparable crisis of 1437 to 1439 did not result in a famine. According to Slavin, this is not only explainable by a smaller population due to the Black Death and an enlargement of peasant holdings, but also by a diversi-

fied food portfolio and governmental reactions, such as the importation of grain and anti-hoarding regulations. Consequently, Slavin marked demography as an important factor in the origin of famine while emphasizing the complexity and multi-causality of the phenomenon at the same time.

Another problem often addressed in the course of the conference was the differentiation between correlations and causalities and the risk of turning the former light-heartedly into the latter. In this respect, MIHAILO POPOVIÄ (Vienna) gave a good example of how to circumvent the connected dangers through profound investigation. Within his study area, the southern Balkanpeninsula, he showed for instance that a change of transhumance areas, which could have been easily attributed to shifting climatic conditions, happened due to a shift of borders.

Given the complexity of the interdependencies between climate and society, GERRIT J. SCHENK (Darmstadt) proposed looking for telecorrelations as a first step and deemed it legitimate to argue based on possibilities, as long as the given uncertainties were made clear.

Moreover, it would be helpful to cooperate with climatologists concerning certain unacknowledged questions, as JÃRG LUTERBACHER (GieÃen) suggested. In his climatological commentary, Luterbacher exemplified the handling of climatological proxies as well as their advantages and difficulties. For the 14th century, tree rings provide the most accurate data. Unfortunately, until the year 1500, climatic reconstructions are limited to the summer months, from which a cluster of unusually cold summers is detectable in the 1340s in all of Europe. Generally, Luterbacher stressed the advantages of documentary data since only written sources give account of extreme events or variations within single seasons and additionally provide detailed information about dating, extent, duration and impact of weather and climate-related events. On this basis, one could be tempted to assert the superiority of certain sources, which was certainly not what Luterbacher intended to do. As a climatologist, he encouraged historians to rely on their own sources and, moreover, to cooperate with scientists, whose data may give answers to still unacknowledged questions or shed a different light on the results of their own source-work. In this way, many of the speakers convincingly demonstrated how to benefit from a combination of a broad range of source types, including proxy data as well as archaeological and documentary sources.

When it comes to written documents, charters and administrative sources seem particularly promising for the investigation of environmental issues, as several contributions showed. Concerning the latter, THOMAS LABBÃ (Dijon) as well as MAXIMILIAN SCHUH (Heidelberg) addressed the fact that bad weather conditions were used as an argument for decreasing revenue in manorial accounts. While the accounts do nonetheless contain extensive weather descriptions, their argumentative function has to be considered in the evaluation, as Schuh emphasized. In his study area, the dÃ©partement Savoie in France, LabbÃ© furthermore detected an increasing vulnerability related to peasant impoverishment in the 1320s. Consequently, he raised the question of whether the resilience of the population was further diminished over subsequent years.

While frequent crisis events may have certainly affected the resilience, there must have also been several factors influencing the degree of vulnerability within societies. Those factors were addressed in many of the papers. PAOLO NANNI (Florence), for example, mentioned the degree of urbanization and the differences existing between import and export areas as well as self-sufficient ones. Furthermore, governmental strategies, like grain import and anti-hoarding regulations, mentioned by Slavin, were also capable of diminishing the vulnerability. This was exemplified by MARTIN BAUCH (Rome). For Italy he investigated the existence of a Dantean Anomaly, i.e. a climate anomaly with floods and crop failure during the last decades of Danteâs lifetime, which might have affected the Divine Comedy. Concerning the case of Sienna, he showed that, thanks to favourable market access and a prudent supply policy, the provision of grain could be assured despite unfavourable climatic circumstances leading to famine in other towns. Moreover, HELI HUHTAMAA (Berne / University of Eastern Finland) showed for the case of Finland that a diversified food portfolio â complemented by fish in her case â which reduced the dependency on grain could help compensate crop failures and thus prevent famine.

From an archaeological point of view, RAINER SCHREG (Mainz) talked about possible preconditions for the crisis of the 14th century. These he sees primarily in the landscape changes of the previous centuries caused by deforestation, the introduction of the regulated crop field rotation and the formation of closed settlements. Convincingly, he exemplified the environmental disadvantages connected to open field crop rotation: the new system led to soil erosion which could have caused a disturbance of the rodentâs ecology, linked to the on-

set of the Black Death. In addition, Schreg named increased heat emission as well as a decreasing groundwater level and a reduction of biodiversity as contributing factors in the resultant higher risk for extreme-weather events. Due to the increasing nutritional concentration on grain and the shortage of farmland caused by soil erosion as well as climate-induced crop failures, there was widespread malnutrition, which increased the vulnerability for diseases. In this way, Schreg sketched out the picture of a mainly anthropogenic crisis.

However, positive aspects were also addressed in some papers. The economic historians ULLA KYPTA (Basel) and ANGELA HUANG (Copenhagen) investigated their proposition, according to which regional inter-city cooperation was promoted by climate change: due to the decreasing income of the lords, which resulted from worsening harvests, and their compensation through the sale of privileges, urban autonomy increased. This was complemented by a shrinking population and a growth of the per capita income. Altogether, these circumstances could have promoted urban economical interaction and political cooperation in Central Europe which, in turn, laid the foundation of the economic recovery in the late 14th and 15th century.

Instead of a crisis, RONNIE ELLENBLUM (Jerusalem) observed a time of abundance for the first half of the 14th century in his study area of Jerusalem due to the restoration of the Roman aqueducts. Based on his research, he argued for a new approach towards historical affluence, which he conceives as a discursive formation comparable to power or gender, and a renunciation of deterministic thought patterns which see abundance as nothing more than a period between two crises.

Last but not least, one has to mention the evening lecture of BRUCE M.S. CAMPBELL (Belfast), who spoke about the re-emergence and spread of the Black Death and its correlation to climatic change. By referring to the five-step cycle of the plague he outlined the development of the pestilence from its comparatively harmless enzootic state to its highly virulent form as pandemic and synchronized it with the eighty-year-long migration of the bacterium from arid Central Asia to Europe. In doing so, he showed the correlation to climate, which is capable of influencing the pathogen in several ways. Pluvial conditions, for example, lead to an increase of the host population of wild rodents via increased plant growth as well as to a propagation of fleas which work as vectors for the disease. According to Campbell, it was around 1270/80 that, in times of increased climatic instability in arid Central Asia, the plague turned from its enzootic to the epizootic state and began its spread westwards. The final nail was put in the European coffin by the transformation of the disease into a pandemic, which coincided strikingly with the major climatic shift point around 1340. Owing to the interdependencies between climate, biology and human society across roughly 6000 kilometres and eighty years, the rise of the plague from its almost dormant state to the well-known Black Death may be called a teleconnection par excellence.

Altogether the conference was characterized by a collegial atmosphere as well as vivid discussions that, while often controversial, always remained constructive. One important merit of the conference was to showcase the benefits of a certain creativity and out-of-the box thinking when it comes to choosing sources and proxy data, not necessarily restricted to oneâs own discipline or to the division into sciences and humanities. While the combination of a wide range of various sources proves to be especially fruitful for the study of regions with scarce documentary evidence, it may also help to shed new light on areas that have yet been only investigated through traditional historical sources.

Concerning the main interest of the organizers, teleconnections, the importance of microlevel studies became very clear. While facing certain difficulties linked to the aforementioned distinction between correlations and causalities, the exploration of possible teleconnections nonetheless enabled the participants to understand âthe crisisâ as a highly heterogeneous event, respectively characterized by various regional and local factors â environmental as well as societal. It also became clear that the different ways of coping with the disastrous events greatly affected each societyâs vulnerability; the influence of the various factors and the character of the connections, however, are yet to be explored.

Conference Overview:

Section 1

Chair: Francesco Salvestrini (Florence)

Paolo Nanni (Florence):
Climate Variability in Italy during the first half of the 14th Century: Historical Data and Research Questions

Martin Bauch (Rome):
A truly “Dantean” Anomaly? Bologna and Siena between 1310â1321

Christof Paulus (Munich):

The Defence of the Crisis, or: An Emperor-monk explains his World

Mihailo PopoviÄ (Vienna):
Did the Little Ice Age have an observable Impact on the Southern Balkan Peninsula in the first half of
the 14th Century?

Section 2
Chair: Richard C. Hoffmann (Toronto)

AndrÃ¡s Vadas (Budapest):
When was the Beginning of the Little Ice Age in the Carpathian Basin?

Rainer Schreg (Mainz):
Plague and Desertion â a Consequence of Anthropogenic Landscape Change? Archaeological Studies in Southern Germany

Andrea Kiss (Vienna):
Bad Harvests, Death, Famine and their Causes in 14th Century Hungary

Section 3
Chair: Dominik Collet (Heidelberg)

Thomas LabbÃ© (Dijon):
The Crisis of 1315 between Lyon, MÃ¢con and Geneva: A Study with Rural Economic Sources

Peter Brown (Durham):
The Extreme Windstorm of AD 1362: Impact, Perceptions and Responses

Phil Slavin (Canterbury):
Was Malthus Right? Re-Assessing the Role of Demography in Pre-Industrial Famines â the Case of Late-medieval British Isles

Maximilian Schuh (Heidelberg):
Narratives of Environmental Impacts in English Sources of the Early 14th Century

Section 4
Chair: Gerrit J. Schenk (Darmstadt)

Ulla Kypta (Basel), Angela Huang (Copenhagen):
Inter-city Cooperation as a Socioeconomic Outcome of Climate Change?

Heli Huhtamaa (Berne/UEF):
Climate and the Great Famine in North-East Europe

Chantal Camenisch (Berne):
14th Century Sources in the Area of Modern Switzerland and their Potential for Environmental and Climate History

Public evening lecture:
Bruce M.S. Campbell (Belfast): The Environmental Origins of the Black Death

Section 5
Chair: Gerrit J. Schenk (Darmstadt)

Ronnie Ellenblum (Jerusalem):
The first half of the 14th Century in the Eastern Mediterranean â a Period of Wealth

Tana Li (Canberra):
Teleconnections: The Yuan and the Extreme Climate, 1260â1360

JÃ¼rg Luterbacher (GieÃen), Franz Mauelshagen (Potsdam):
Climatological Comments 1280â1380

Gerrit J. Schenk (Darmstadt), Martin Bauch (Rome):
Concluding Remarks

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