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Out of the Woods and into the Lab: Exploring the Strange Marriage of American Woodcraft and Soviet Ecology in Czech Environmentalism

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ABSTRACT

It is widely assumed that modern environmentalist thinking was imported into post-communist states such as the Czech Republic post 1989. This paper shows these countries had environmental traditions of their own. From its inception in the late 1950s Czech environmentalism was concerned with nature conservation and youth education. At the core of its pedagogy was a concern to educate about and in nature, following the woodcraft and scouting tradition. But formal educational experiences were also significant. Environmental problems were framed as exclusively scientific issues by communist higher education systems. Thus, Czech environmentalism was a blend of the officially sanctioned rational and scientific perception of environmental issues and a more independent romanticising undercurrent. We show how Czech post-war environmental politics blended Soviet ecology with covert references to the mythology of American West, the virtues of pristine nature and of individual freedom. This heritage allowed Czech environmentalism to adapt to both communist and capitalist systems. However, it also meant it was not equipped to deliver a strategic or systematic critique of either. Our research helps to explain the surprisingly muted role of environmentalism in post-communist politics, and confirms the importance of nuanced and culturally specific analyses of the history of environmental politics.

KEYWORDS

Czech environmentalism, ecological modernisation, Soviet ecological science, woodcraft

Interviewer: Why did you apply for the job of director of Greenpeace Czech Republic?

Respondent: Because I am an old tramp.¹

Environmental movements were prominent catalysts in some of the most dramatic political events of the second half of the twentieth century. They were important components in the alliances that brought down the Central and Eastern European communist states in 1989. But it has been noted that they have had little impact on the trajectory of economic and social development since that time. In this paper we look at the intellectual and cultural origins of Czech environmentalism to excavate some of the reasons for their muted presence in the post-Communist era.²

Perhaps as a consequence of the pivotal role of environmentalism in dismantling the Czechoslovak communist regime, most analyses of the Czech environmental movement have been written from within political science. The dominant perception of the environmental movement is as a civil society actor engaged primarily in democratisation of post-communist society. Hence it is considered in the literatures on resource mobilisation theory and political opportunity structure. These have firmly focused the attention of researchers on the post-1989 period and neglected much of the movement's pre-1989 history. Only a few authors have attempted to put forward a more comprehensive history of the Czech environmental movement between the mid-1970s and late 1980s.³ Much of the more distant past of the 1960s and early 1970s has until recently remained shrouded in mystery. This may in part be because it reaches beyond the personal experience of the majority of people who have been active in the movement since 1989 and who have been the main sources of information for most of the existing literature.⁴

This article has two interrelated aims. First, it traces the distinctive characteristics of the early years of Czech environmentalism during the communist period. This demands an exploration of the long-standing co-existence of its two, seemingly incompatible, fundamental strands: the anti-modern, romantic, first-hand knowledge of nature on the one hand and the representation of environmental problems in terms of rational scientific expertise on the other. The second step taken by the article is to apply the exploration of founding influences to the burgeoning debate on the applicability of the current western hegemonic environmental discourse – ecological modernisation – to societies beyond the political and economic context of western advanced industrial societies for which the concept was originally developed.

In her article 'Legacy of Waste or Wasted Legacy?' on the history of the Hungarian waste management, Zsuzsa Gille convincingly argued that pre-1989 communist systems did, in the 1980s, begin to establish environmental protection measures that were, at the theoretical level at least, parallel with the discourses of

ecological modernisation in the West. However, unlike the Hungarian state-run system of waste management,⁵ the Czech environmental movement's experience, views and style of activities were not rejected in the post-1989 period in large part because they evolved as a critique of the communist management of public policies. We argue in this paper that the Czech environmental movement's complex ideological heritage made it remarkably compatible with ecological modernisation as a political programme that various western agencies began to disseminate in the country in the wake of the 1989 regime change.

This argument will be developed in the rest of the paper. The first section outlines ecological modernisation and the transformation of western environmental movements within that process. It considers the degree to which the Czech environmental movement of the 1990s shared the characteristics of the ecologically modernised Western environmental movement. The second section explores one aspect of this in more depth, that is, the tradition of framing environmental problems as scientific-technical questions. The third section of the paper investigates the other main strand in Czech environmentalism's cultural roots, that is, their relationship with an anti-modern romantic individualism inspired by the American woodcraft movement. The conclusion of the paper shows how these intellectual and cultural influences shaped a distinctive form of environmentalism. It considers how the Czech environmental movement that had its origins in a blend of American woodcraft and Soviet ecological science was capable of adapting to both communist and capitalist systems, but was not equipped to deliver a strategic or systematic critique of either.

ECOLOGICAL MODERNISATION AND CZECH ENVIRONMENTALISM

A fundamental change occurred in the dominant western environment-development discourse between the early 1970s and mid-1980s. Notions of environmental limits to economic growth connected with theories of de-modernisation and de-industrialisation were replaced by a discourse or belief system that incorporated modernity, economic growth and capital accumulation – ecological modernisation.⁶ The basic premise of ecological modernisation is that the environment and the economy can be made mutually reinforcing. The emergence of ecological modernisation is most clearly expressed by the prominence of this thinking in the publications of the OECD and the Brundtland Commission in mid-1980s. Ecological modernisation is often interpreted as a Western elaboration of sustainable development.⁷

Ecological modernisation, both as a theory of social change and as a political programme is not so much about improvements in the physical environment, but rather about social and institutional transformations that will deliver that end. Ecological modernisation became an environmentalist 'norm' in the 1990s. This

is best explained by the reframing of environmental protection in the context of the hegemony of neo-liberalism (comprising the promotion of free trade and market forces as the main engines of economic growth and the retreat of the state from the economy and civil society). Ecological modernisation is essentially concerned with 'the restructuring of the capitalist political economy along environmentally more defensible lines'.⁸ Although environmental degradation is perceived as a structural problem that requires changes in organisation of the capitalist economy, this does not amount to demands for a completely different political-economic system.⁹

Most scholars working in the field would agree on the following core features of ecological modernisation:

- environmental protection and economic growth as a positive-sum game;
- increasing importance of market dynamics and economic agents (producers, consumers, insurers) as carriers of ecological restructuring;
- the preventive role of science and technology through technological and organisational innovations;
- transformations of the nation-state's internal role towards more decentralised, flexible, bottom-up and consensual environmental governance;
- at the same time, the (western industrialised) nation-state remains the central analytical unit of ecological modernisation; and
- greater involvement of environmental movements in public and private decision-making institutions, partnership between public authorities, business and NGOs.

As to the last point, the exact nature of environmental movements' greater involvement in these processes is rarely analysed.¹⁰ However, there appears to be a broad consensus in the ecological modernisation literature with respect to western environmental movements' transformation as part of this process, which can be summarised by a number of shifts from:

- radical opposition to capitalism, industrialisation and bureaucratisation to being more oriented toward institutional reform;
- being part of a broader 'new social movement' including women's rights and the Third World, to being more single-issue oriented towards the environment;
- playing outsider to moving to increasingly insider roles in the environmental transformation of societies;
- being external critics to increasing communication, negotiation and consultation directly with economic agents and state representatives;

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- dominating environmental agenda-setting to being one of actors influencing these processes; and
- working closely with the state to working more closely with market actors.¹¹

There is evidence that the Czech environmental movement in the post-1989 period is largely consistent with this summary of the constituents of an ecologically modernised environmentalism.¹² Most Czech environmentalists view evidence and expert knowledge as the main criteria according to which environmental disputes should be resolved. For them, liberal democracy and the market economy are the preconditions for effective solutions to environmental problems. Conversion at the individual level is held to trigger social change. However, the notion that systemic change might be required to resolve environmental problems is often explicitly rejected. Technology can be a partial solution to current problems, but only in the context of market-based and flexible instruments of environmental policy. The main collective actor is 'civil society', including environmental groups. In this framing, environmental groups represent mediators between individuals or locally based informal groups of citizens, and the central state authorities. Although infinite economic growth and administrative regulation are both stigmatised, the market economy and the ecologically conscious individual are seen as sufficient conditions for progress towards an ecologically modern Czech society.¹³

A tempting line of explanation would be that these views were formed and developed in the course of the 1990s as a result of western influences and that the fundamental change in the form and function of Czech environmentalism experienced in the 1990s¹⁴ was accompanied by a similarly far-reaching shift in their worldviews. But our research points to a much longer heritage for such thinking originating from two startlingly different influences, namely the early twentieth century American woodcraft movement and Soviet ecological thinking. The next section explores the second of these.

UNDERSTANDING ENVIRONMENT – THE PRESERVE OF SCIENTIFIC EXPERTISE

The environmental protests and mobilisations of the late 1980s that made a substantial contribution to the overthrow of the communist regime coalesced around two major concerns. The first and most prominent emerged in the mid-1970s around the adverse effects of industrial pollution on human health and the stability of fragile, mostly mountainous ecosystems. The second was the longer-standing impact of various large-scale government projects such as hydropower plants on biological diversity and landscapes.

Communist institutional understandings of ecological problems were founded in scientific/technical worldviews. Hence ecological problems were interpreted by the regime as mere temporary aberrations that were to be resolved by ever more vigorous application of scientific and technical advancement.¹⁵ The dominance of science and technology in problem solving in Czechoslovak communist society was reflected in all aspects of intellectual life including the curricula at all levels of the educational system,¹⁶ in publishing policy and in research priorities. Starting in the 1970s, environmental studies at the tertiary level of education were taught within university departments and faculties of science and at polytechnics. The limited number of students allowed to enrol on these programmes were required to study a range of highly specialised scientific analytical methods and the (technical) management of protected areas. This model of environmental studies was preserved well into the 1990s.¹⁷

The scientific/technical worldview was dominant amongst elites on account of the nature of graduate and post-graduate education. Graduates represented only seven per cent of the Czech adult population in the second half of the 1980s, and their educational experiences were remarkably homogeneous. About 80 per cent of university degree holders graduated either from polytechnics or faculties of science (including medicine). This emphasis on scientific and technological solutions to all of society's problems ensured that from the 1950s onwards at least 90 per cent of university graduates received a highly specialised education at the expense of holistic or interdisciplinary approaches.¹⁸

Unlike the neighbouring communist countries such as Hungary and Poland, where academics and intellectuals enjoyed some limited access to western social scientific literature, Czechoslovakia was virtually cut off from the wider international intellectual community. Discussion of political, economic, and social issues in Czech publications were descriptive and technical, and lacked analytical and theoretical dimensions.¹⁹ This contrasts with East Germany, where much environmental activism prior to 1989 had a left-wing, anarchistic and autonomous ideological background partly nurtured by the work of western authors such as André Gorz and Ivan Illich. This framing of environmental issues was developed further by East German authors (published in West Germany) such as Rudolf Bahro and Wolfgang Harich.²⁰

The resulting narrow technocratic paradigm in which environmental problems were addressed by the Czech research and academic communities was characterised by strong cognitive-informational capacities for data gathering, analysis and classification. However, this was in tandem with a lack of ability to use the resulting data bases for the development of effective environmental protection policies. An environmental status report produced for the IUCN in 1989 captures the mood of Czechoslovak science of environment in the following words:

Steps are being taken to record and evaluate the rate of environmental change.

Monitoring of the environment is therefore being developed in various forms

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and localities. For example, there are several institutes using remote sensing, such as the State Institute for Protection of Monuments and Nature Conservation in Prague which operates its own Remote Sensing Laboratory principally for monitoring environmental deterioration in a large protected area.²¹

In other words, expertise was almost exclusively directed to ever better recording and understanding of the process of environmental deterioration rather than to developing policy proposals as to how these trends could be reversed or prevented. From the early 1970s onwards the intellectual climate surrounding environmental understanding was influenced by the Soviet landscape school of thought on the environment. The Institute of Landscape Ecology of the Czechoslovak Academy of Sciences, established in Prague in 1971, played an important role in this. In the Soviet Union this intellectual current had a long history, associated with pre-revolutionary and early Soviet-era scientists such as V.V. Dokuchaev and V.P. Semenov-Tyan-shanskij.²²

What distinguished this school of thought from the narrow disciplinary approaches typical of Czech environmental science of the time, was its emphasis on the 'functional and integrated way of looking at the natural environment' and its 'regional, integrated approach to geography, combining natural and human phenomena'.²³ It placed emphasis on revealing regularity, patterns, causality (of natural phenomena) and 'laws of nature'. Its key concept was a landscape, or a landscape zone closely related to the notion of geosystem:

A 'geographical', or 'natural' or 'landscape zone' features common thermal conditions and a moisture regime, which together determine a specific nature of hydrological conditions, geochemical processes, soil formation and character of vegetation cover.²⁴

The key point in relation to environmental problems is that these features determine the resistance of each zone to human disturbance and its resilience, i.e. the ability of the landscape to return to its equilibrium or original state. A landscape zone's capacity to withhold external disturbances depends on its degree of diversity. As a consequence, the same interference with landscape might have vastly different implications depending on the zone in which it occurred.

The value of this holistic approach to environmental problems lay in its ability to describe in a complex and systematic manner the functioning of ecosystems, disclosing 'laws', regularities and patterns characterising human interferences with the environment. It shared with the Czech traditional approach both the virtues of its sound scientific grounding and the vices of its inability, inherent in the structure of Soviet science, to extend its insights to the more prescriptive, policy-making and decision-making sphere.²⁵

An example of an influential Czech publication of the 1980s that contained a number of references to the influence of the Soviet landscape school is 'The Environment through the Eyes of the Scientist' (*Životní prostředí očima přírodovědce*), whose first edition appeared in 1979 and the second edition

in 1989.²⁶ The authors were three leading environmental scientists – chemist Bedřich Moldan,²⁷ plant ecologist Jan Jeník and chemist Jaroslav Zýka. Another important publication of that period was the translation of Paul Duvigneaud's *La synthèse écologique* published under the Czech title *Ekologická syntéza* in 1988. This western book was to some extent influenced by the Soviet school of thought and some of its conceptual underpinnings were compatible with the approach of other Czech and Soviet publications of that period.²⁸

The group that most clearly represented both currents of the 'scientific environmentalism' described above was Ecological Section (*Ekologická sekce*). This elitist academic organisation, in full name Ecological Section of the Biological Society of the Czechoslovak Academy of Sciences, which was, after a decade of thwarted attempts, officially established in December 1978,²⁹ evolved from a group of friends and colleagues, most of whom held jobs in various institutes of the Academy of Sciences. At its peak in 1989, the membership of *Ekologická sekce* reached 400. It effectively ceased to exist after November 1989 when the majority of its leading members joined the newly created Czech Ministry of the Environment. The activity of *Ekologická sekce* initially displayed what some members viewed to be an excessively scientific bias.³⁰ However the more critical strand of its activities gained in strength over time, particularly its concern with access to secret environmental data and the effects of pollution on ecosystems and human health. In practical terms, *Ekologická sekce* was largely involved in integrative and co-operative ventures such as public lectures and seminars, publishing conference proceedings and preparation of expert reports commissioned by government institutions.

As the 1980s progressed, environmental damage was increasingly manifest in industrial air and water pollution with their attendant human health and landscape impacts. These problems were linked to industrial production – above all in resource-intensive industries (metallurgy, mining and coal-based energy production). They became powerful symbols of the communist state's mismanagement of the economy and disregard for its citizens' well being. Members of *Ekologická sekce* were aware of the politically destabilising effects of the degraded environment.³¹ One of the reports commissioned by the government, the 'Report on the State of the Environment in Czechoslovakia' (1983), was leaked to the dissident group Charter '77 and was consequently published in the western press in 1984. This act brought *Ekologická sekce* closest to what could be called a macro-level critique of the system. This undercurrent of environmental critique tacitly levelled the blame for growing environmental degradation on the communist state's management and reached a paradigmatic status in the second half of the 1980s.

However, the members of *Ekologická sekce* were also pursuing less overtly political and more intellectually ambitious interests including global environmental problems and their social and economic dimension. For example, they published semi-official Czech translations of Hardin's 'The Tragedy of the Com-

mons³² and of the Club of Rome's *Limits to Growth*. Nevertheless, as Bedřich Moldan, who was mainly responsible for the latter, recalled in an interview for *Nová přítomnost* monthly at the beginning of the 1990s, this effort had no impact on the wider Czech environmental movement's discourse: it met with very little response. The limited influence of western academic literature and discussions is confirmed by Miroslav Kundera's observation, made in the early 1990s, that 'even within the [Czechoslovak] environmental movement there are few people who have a deep knowledge of the works of the Club of Rome; the names of E.F. Schumacher, A. Toffler, F. Capra and others are almost unknown'.³³

The influence of the Soviet school of ecological thought reached much further mainly through university textbooks and other official academic and popular scientific publications.³⁴ Although most Czech academic authors in this period would occasionally make use of references to Soviet authors as 'libations',³⁵ there is good evidence that the Soviet school of ecological thought was influential amongst the membership of Ekologická sekce, as the book *Životní prostředí očima přírodovědce* makes apparent. This and other writings contained references to the Soviet bio-geochemist and thinker Vladimir Ivanovich Vernadskiy³⁶ and his theoretical concepts including biosphere and noosphere. Leading figures of Ekologická sekce Moldan and Mezříčský were already acquainted with Vernadskiy's theories in the early 1970s.³⁷ During the 1980s, Vernadskiy's ideas were influential in Czech academic debates, as the additional chapter to the translation of Duvigneaud's *La synthèse écologique*, dated in 1985 and co-authored by three senior members of the Institute of Landscape Ecology, demonstrates. The chapter contains a polemical debate with Duvigneaud on the exact meaning of Vernadskiy's concept of noosphere.³⁸

In the late 1980s, Vernadskiy's environmental thought achieved cult popularity in some segments of Czech academia. Not only was the Czech Society of V.I. Vernadskiy founded in that decade, but in 1989 an exhibition dedicated to Vernadskiy was held in Prague and České Budějovice (the seat of the Institute of Landscape Ecology).³⁹ Between 1986 and 1990, Vernadskiy's ideas were widely used as methodological concepts underpinning research projects conducted by the Institute of Landscape Ecology.⁴⁰ Vernadskiy's philosophical approach, synthesising inorganic and organic parts of nature, in some respect resembles Lovelock and Margulis' Gaia hypothesis that was published half a century later.⁴¹ However, a number of Czech leading academic ecologists, for example Alois Zlatník, were dismissive, and stressed the importance of pure disciplinary scientific approaches to ecology.⁴²

Despite the fact that Vernadskiy's holistic philosophical approach could be represented as contrasting with perspectives based in narrow academic disciplines, they shared an important feature with it – the lack of a policy- and decision-making dimension. Scientific, technical, rational, apolitical and value-free interpretations of environmental issues were dominant in the Czech environmentalist circles of the 1970s and 1980s. This was the only type of

reasoning that did not contradict the official ideology of social advancement based on scientific-technological progress and was hence permitted by the authorities. The key goal of the environmental scientists was to gather more data and information, which would enable them to mount more effective scientific arguments in communication with the authorities.

A ROMANTIC EDUCATION: 'BUILDING CHARACTER' THROUGH EXPERIENCE OF NATURE

The academic and other protagonists of the environmental mobilisation of the late 1980s clung tightly to scientific data and arguments in their interactions with the communist state authorities. However there is strong evidence that key formative experiences were, for many of them, drawn from a markedly different tradition of Czech environmentalism. A number of Czech academic ecologists were apparently able to reconcile their professional environmental activity, based on scientific and technocratic rationality, with an older Czech romantic and spiritual cultural undercurrent. This extolled the virtues of direct experience of pristine nature including the character-building potential for the individual. For example, Bedřich Moldan gave the following response to a journalist's question on the origin of his environmental orientation:

When I was 14 or 15, I joined an excellent woodcraft tribe in Děčín. It was several extremely important years of my life. We went on hikes and camped out under the leadership of an erudite forester Klen. He was a person of exceptionally strong principles that were based on the ideas of Seton and woodcraft including extreme modesty and the ability to get by with very little. When we went on a hike, we mustn't have left a trace.⁴³

Václav Mezřícký answered a similar question in the following way: 'And later I joined the scouts where I acquired that romantic attitude to nature and learnt various "Indian" and backwoodsman's traditions...'.⁴⁴ In his book dedicated to the history of the Czech woodcraft movement, Libor Pecha suggests that the majority of Czech academic ecologists are in one way or another connected with scouting and woodcraft and draws up a list of prominent contemporary individuals in support of his argument. Pecha's list of leading environmental academics-activists – all former scouts and woodcrafters – includes Bedřich Moldan, his co-author of *Životní prostředí očima přírodovědce* Jan Jeník, chairman of the Society for Sustainable Living (*Společnost pro trvale udržitelný život*; the 1990s successor of *Ekologická sekce*) Igor Míchal, the Czechoslovak federal minister of the environment between 1990 and 1992 Josef Vavroušek, and the head of the department of ecology at Olomouc University Milena Rychnovská.⁴⁵ Pecha seems oblivious to the contradictory mix of an anti-modern woodcraft ethos

and education that these people grew up with and the scientific environmental discourses that they were practising professionally and in public life.

A number of interviews with contemporary Czech environmental movement intellectuals, who were one or two generations younger than the former leaders of *Ekologická sekce*, identified a broadly similar range of influences on the formative experience of these activists. Five mentioned their tramping (outdoor hiking and camping – more discussion below) experience, and four their childhood membership in scouts. Another four referred to the influence of romantic books on the nineteenth-century American West (by German writer Karl May), North American wilderness and the life of Native Americans (by US writer, artist, educator and naturalist Ernest Thompson Seton) and Czech boy scouting (by Czech writer Jaroslav Foglar).⁴⁶

Scouting, woodcraft and tramping, which, in that order, range from an organisation to a loose movement, are, in the Czech historical context, all manifestations of the same cultural formation whose origin lies in the early years of the twentieth century. The common historical point of reference for all three strands is the work of Ernest Thompson Seton. Inspired by the lives and culture of Native Americans, in 1906 he published, under the title *The Birch Bark Roll of the Woodcraft Indians*, a handbook that set forth the aims and methods of his woodcraft movement.⁴⁷ Some ideas from Seton's book appeared in Baden-Powell's *Scouting for Boys*, published in Britain a year later.⁴⁸

Both scouting and woodcraft almost instantly found their enthusiastic Czech promoters. A high school PE teacher A.B. Svojsík founded the first Czech scout organisation (*Junák-český skaut*) in 1914. Starting in 1912, Seton's ideas were also promoted in the Czech Lands by a high school biology teacher Miloš Seifert. After several years of unsuccessful attempts to develop a movement modelled on Seton's ideas within Czech and later Czechoslovak scouting, an independent organisation called the Woodcraft League (*Liga lesní moudrosti*) was eventually founded in 1922. Seton's romantic books about North American wildlife and woodcraft were hugely popular in the inter-war Czechoslovakia⁴⁹ and were also published during the 1948–1989 communist period.⁵⁰

Although Svojsík's adaptation of scouting to Czech conditions softened the military and religious associations, it was still regarded by many boys in their late teens as an excessively regimented activity. As a reaction to scouting's emphasis on discipline, a loose movement, initially called 'wild scouts' and later labelled 'tramping', quickly sprang up across the country immediately after the First World War. Tramping owed its popularity to the presence of a specific strand of contemporary American culture. This was communicated through Czech translations of literature on the North American wilderness and through early American westerns. Influential US writers included James Fenimore Cooper, James Oliver Curwood, Zane Grey, Bret Harte and, above all, E.T. Seton and Jack London. A leitmotif of this literature was the strong and indomitable individual set within a harsh and dangerous but pristine nature.⁵¹

Tramps went on hikes or canoe trips on scenic rivers, and built camp sites and log cabins where they spent weekends doing sports, carving totem poles and playing guitars and singing songs around the bonfire at night. While tramping and the associated popular culture (music, literature, magazines and films) always nurtured positive attitudes to nature, the movement has gone through several major transformations. Before World War Two tramping represented an alternative and left-leaning youth subculture.⁵² In the communist era tramping enabled people of all age groups to find a refuge from oppressive every-day reality with a group of like-minded friends in their log cabins or campsites. In the same way as other 'silent dissent' movements such as the clandestine woodcrafter and scout groups and in contrast to its pre-World War Two tradition, during the communist period tramping developed anti-left-wing political attitudes. All three movements retained their popularity during the four decades of the communist regime due to their mildly oppositional nature and their rootedness in the 'golden age' of Czech history – the interwar democratic Czechoslovakia. Nevertheless, they needed legitimate, regime-sanctioned protection if they were to maintain their activities. Not surprisingly, given their close affinity with nature and outdoor activities, they soon found this refuge in the science-based, and hence apparently apolitical, sphere of nature conservation.

The proclaimed genesis of the first Czech post-World War Two environmental group shows the influence of the romantic woodcraft tradition of youth education. Zoologist Otakar Leiský tells of how, on 3 March 1957, he went with his family for a Saturday walk to a limestone valley called Prokopské údolí near Prague. They were approached by a group of boys who were eager to learn about the area. From that date on this serendipitous grouping held regular weekly meetings. In the summer of 1957, Leiský, himself a scout in his childhood, organised a summer camp for this group of children with a programme modelled on the woodcraft educational system (outdoor games, hikes to the countryside and basics of ecology).⁵³

Leiský wanted to keep a distance from the Communist Party-controlled Pioneer Organisation and the Czechoslovak Union of Youth, and at the same time to avoid persecution by the authorities. It was essential to find an officially recognised shelter for their activities. Since it was impossible to establish a new organisation, the only option was to join a body sanctioned by the Communist authorities. This led to the formation of a new section of the Scientific Association of the National Museum – the Section for Nature Protection – in 1958. During the 1960s the Section transformed, as a consequence of its growing membership, into the Association for Nature Protection of the National Museum.⁵⁴ Taking advantage of the political thaw associated with the Prague Spring, in November 1969 the Association broke away from the National Museum Society and registered with the Ministry of Interior. From this point on it became an independent organisation under the name Yew Tree – the Union for the Protection of Nature and Landscape (*Tis – Svaz pro ochranu přírody a krajiny*).⁵⁵

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At its peak in 1979, Tis had 16,000 members. Up until 1974 Tis was the only environmental group in the territory of today's Czech Republic, hence the composition of its membership reflected both constituent traditions of Czech environmentalism. A large proportion of Tis's members were children and young people in 'Clubs of Young Nature Protectionists'. The leadership of Tis saw tramping and Tis-style environmental activism as kindred souls. In 1968-1970, Eva Olšanská who was in charge of the Tis's educational section also ran, under the title *The Sprig of Yew (Pod snítkou tisú)* a column in a monthly magazine *Tramp*.⁵⁶ In this way she disseminated information on the work of *Tis* within the tramping movement and recruited new members for the organisation. The intimate relationship between tramping and environmentalism at the local level is illustrated by the recollections of the early 1970s of a tramp and Tis veteran in Valašské Klobouky:

And because I really think that aside from their vision of friendship, romanticism and camaraderie, the tramps always accepted nature as their basic space, we got inspired very quickly and that's why we founded Tis back then.⁵⁷

The second group of Tis members were people with a scientific educational background⁵⁸ – either university teachers and researchers, including some very senior ones, from the Academy of Sciences or professionals who used their tertiary level of education in biology and other scientific disciplines in an applied way – as high school teachers, forest managers and the like. Respected and well-known scientists, including Vernadskiy's critic Alois Zlatník, usually held the top representative posts.⁵⁹

While the leadership of Tis was undoubtedly proud of its capacity to sustain independence from the regime's institutions such as the National Front (*Národní fronta*),⁶⁰ the organisation was at the same time involved in all sorts of co-operative ventures. An important feature of Tis's activities was wide-ranging co-operation with various stakeholders whether it be local schools or state nature protection institutions such as Landscape Protected Area authorities, museums or local governments.⁶¹

Throughout its history as an independent organisation (1969–1979) Tis received no state funding. To fund its activities, Tis raised membership fees, arranged public lectures and film projections, and undertook contracted weekend work for co-operative farms or the state company managing forests. To earn income for the organisation, Tis developed an entrepreneurial culture and drew on the unique skills and expertise of many of its members. During the 1970s it produced 30 consultancy reports, many similar to present day EIAs. These reports were commissioned by various state bodies and included a comprehensive ecological assessment of the site of politically sensitive uranium mining.⁶²

During the last six years of its existence, Tis shared some of its key expert-activists with Movement Brontosaurus (*Hnutí Brontosaurus*).⁶³ The roots of this environmental group date to 1973. Several young researchers in the Academy of

Sciences' Institute of Landscape Ecology in Prague who did not want to join the Communist Party needed to find an alternative means of political engagement. The director suggested that the Institute found a branch of Socialist Union of Youth (*Socialistický svaz mládeže*; SSM) that would specialise in environmental protection and education. The idea was seized upon by the Central Committee of SSM which declared 1974 as the Year of Environmental Protection, the main manifestation of which was a huge media campaign called Action Brontosaurus (*Akce Brontosaurus*) aimed at children and young people and designed by experts from the Institute. Magazines for children and young people and the Czechoslovak Television and Czechoslovak Radio took part in the campaign. Each month of the Year was dedicated to a particular environmental problem such as air pollution, waste management, transport and water pollution.⁶⁴ Following its phenomenal success, the Central Committee of SSM decided to turn Akce Brontosaurus into a permanent programme of SSM activity called Hnutí Brontosaurus. Brontosaurus could count on almost 10,000 volunteers in its 1980s heyday. Brontosaurus was engaged in a range of activities, the most popular of which were summer camps located in areas of natural beauty. Participants worked as volunteers for two weeks, yet the demand greatly exceeded the number of available places. Only about a tenth of applicants could participate.

The most important component of the Czech environmental movement in the 1980s was Czech Union for Nature Conservation (*Český svaz ochránců přírody*; ČSOP). This was established by the Czech government in September 1979 to replace Tis which the authorities forced to 'voluntarily' disband itself at the end of the same year.⁶⁵ While Tis leadership ostensibly refused to join the newly created organisation, many members of local branches, to whom ČSOP was often presented as the Tis's successor, joined the new Union. In fact, they had no choice if they wanted to continue their conservation work. At the end of the 1980s the ČSOP's membership reached 26,000. ČSOP resembled Tis not only in the breadth of its activities, but also in its co-operation with a range of institutions and companies which often became its collective members.

The task given to ČSOP by the authorities was 'to develop ideo-educational and propagandistic activities aimed at winning the masses for nature conservation and protection of the environment along the Communist Party line'.⁶⁶ However, several groups in ČSOP, especially in the second half of the 1980s, became engaged in activities that led to co-operation with more openly political groups. A case in point was the publication of the 'ecological bulletin' *Nika*, the official magazine of the Prague City Committee of ČSOP, which throughout the 1980s dared to enter into a direct confrontation with the Communist Party over some environmentally controversial projects. In addition to articles by staff editors *Nika* printed occasional *nom de plume* articles by 'ecological dissidents' and also by distinguished scientists – members of *Ekologická sekce*. Continuing the tradition established by Tis, ČSOP placed a great emphasis on children's

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education. Several thousand ČSOP members were children under 15 who went through an educational programme based on scouting and woodcraft.

While in their practical nature conservation and expert consultancy work the members of Tis, Brontousaurus and ČSOP were guided by scientific rationality and expertise, the educational programmes of all three organisations were much wider and more culturally rich. These programmes were aimed at instilling in children and young people positive attitudes towards nature, and had strong romantic, aesthetic and spiritual components. They emphasised the importance of experiential learning in the outdoors. The woodcraft and tramping-related tradition was centred on gaining a working knowledge of nature, and emphasised modest lifestyles and self-reliance. This helped to nurture the strong commitments within the Czech environmental movement to the centrality of lifestyle in environmental protection. The emphasis on young people's education was an expression of the importance of reformist 'micro-level' strategies of change to the Czech environmental movement.

PRESENT DAY CONSEQUENCES OF THE HERITAGE OF CZECH ENVIRONMENTALISM

The pre-1989 Czech environmental movement largely developed in isolation from western environmental movements and the influences that informed the latter in the 1960s, 1970s and 1980s. During the communist period communication between Czech environmentalists with their western counterparts was almost non-existent. Czechs had little experience of the foment of critical thinking that was part and parcel of the emergence of new social movements out of which western environmentalism was forged. Up until 1989 Czech environmentalism was shaped by two longer traditions: early twentieth-century American woodcraft and Soviet ecology. This blend of romanticism and scientific/technical rationality shaped a distinctive domestic environmentalism.

From its inception in the late 1950s the Czech environmental movement was concerned with science-based nature conservation and youth education. At the core of its pedagogy was a concern to spread a working knowledge of nature, following the woodcraft, tramping and scouting tradition. Scouting, and its anti-authoritarian sibling tramping, had been hugely popular in inter-war Czechoslovakia. Many environmentally concerned Czechs were thus imbued with woodcraft, scouting and tramping's conviction that individual betterment could be achieved through education about and *in* nature. It was a short step for the environmental movement to conclude that environmentally positive lifestyle changes would be an effective strategy for the transformation of the relationship between society and the environment.

But formal educational experiences were as important as the extramural environmental legacy. During the communist period the structure of secondary

and tertiary education was heavily biased in favour of technical and scientific disciplines. Graduates in these disciplines made up about 80 per cent of all university graduates. This was reflected in the educational background and professional experience of leaders of Tis, Brontosaurus, ČSOP and Ekologická sekce. Some disciplines, primarily biology and ecology, which were in the 1970s and 1980s under the influence of the Soviet school of ecological thought, were clearly more conducive to the involvement of individuals in the environmental movement.⁶⁷ Thus, the Czech environmentalism of the communist period was a peculiar blend of the officially sanctioned moderate current of rational, technocratic and scientific (ecological) perception of environmental issues and the more independent romanticising undercurrent which, with its covert references to the mythology of American West, extolled the virtues of pristine nature and individual freedom.

Contrary to suggestions that modern western environmentalist thinking, framed as ecological modernisation, was simply transported and promulgated within post-Communist states after 1989, we have found that the conditions were already laid for its promotion. The distinct domestic form of environmentalism that emerged in Czechoslovakia during the communist era laid the ground for an embrace of the paradigm of ecological modernisation. Whereas western environmentalism emerged in tandem with a broader New Left counterculture, Czech environmentalism represented a more moderate response to 'existing socialism' and politically leaned to the right or centre. It was well prepared to promote a response to ecological problems founded in free markets and individualism after the fall of communism.

To domestic commentators, the explanation rested exclusively in the fact that 'ecological damage in Czechoslovakia was perceived as a consequence of the communist centrally planned economic system and hence Czech environmentalists saw the capitalist system and market economy as their hope'.⁶⁸ The macro-level environmentalist critique voiced primarily by Ekologická sekce, was not directed against industrialisation *per se*, but against the detrimental effects of industrial pollution on the health of the public and ecosystems. These problems were associated with a particular kind of economic development – the paradigmatic heavy industries representing the alien Soviet model of forced industrialisation. As a consequence of the omnipresent, unaccountable and economically incompetent state Czech environmentalists associated environmental reform with a retreat of the state, from both the economic and the political sphere. Gaining access to data on environmental degradation became an important part of their struggle. Such data could be used in arguments against the communist state. The contemporary doctrine of social progress through science and technology dictated the terms of exchange. Both protagonists – communist state authorities and their environmental critics – felt comfortable with this as they shared the same scientific and technical educational background.

However, it can be argued that environmentalists in other post-communist countries in Central and Eastern Europe, such as East Germany, shared both the experience of ecologically destructive Soviet models of industrialisation and the obligation to frame debates in scientific/technical terms. Yet, unlike East Germany, there was no tradition in the pre-1989 Czech environmental movement of opposition to capitalism or of attempts to merge environmentalism with a left-wing ideology. This points to the importance of the other – anti-modern and romantic – strand in Czech environmentalism, rooted in Seton's American woodcraft movement.

We conclude that the strange marriage of Soviet ecological thinking and American woodcraft tradition at the roots of Czech environmentalism left the movement well adapted for the rapid adoption of ecological modernisation post-1989. The combination of an aversion to state-centred responses to environmental problems, and the promotion of a re-framing of nature-society relations in terms of individual experiential learning meant this variant of environmentalism arrived at the same place intellectually, and at the same time, as its West European form, albeit by a very different route. But this left Czech environmentalism ill-equipped to deliver a mature critical voice in the post-communist era. The years since 1989 have seen rapid economic, political and social changes, but these changes have progressed with minimal reference to environmental frames of thought.

Although in the mid-1990s the Czech movement launched several campaigns aimed at preserving the system of public transport⁶⁹ and returnable bottles it subsequently ran out of strategic space within which it might argue for some of the environmentally valuable legacies of the communist era, whether planned by the state (e.g. an extensive public transport system) or developed in response to its failures (e.g. extensive local self-provisioning and barter in food).⁷⁰ The simultaneous emphasis on the importance of scientific rationality and technical management, and a romantic educational programme aimed at changes in individuals' lifestyle through living 'in nature', stopped the movement from addressing wider structural dimensions of environmental degradation.

NOTES

¹ Interview with co-author, 5 December 2003. Birmingham, UK.

² Hein-Anton van der Heijden, 'Environmental Movements, Ecological Modernization and Political Opportunity Structure', *Environmental Politics* 8 (1999): 199–221. Barbara A. Cellarius and Caedmon Staddon, 'Environmental Nongovernmental Organizations, Civil Society, and Democratization in Bulgaria', *East European Politics and Societies* 16 (2002): 182–222.

³ For political science accounts of the Czech environmental movement see, for example, JoAnn Carmin and Barbara Hicks, 'International Triggering Events, Transnational

Networks and the Development of the Czech and Polish Environmental Movements', *Mobilization* 7 (2002): 305–42; Adam Fagan, *Environment and Democracy in the Czech Republic: The Environmental Movement in the Transition Process* (Cheltenham: Edward Elgar, 2004); Adam Fagan and Petr Jehlička, 'Contours of the Czech Environmental Movement: A Comparative Analysis of Hnutí Duha (Rainbow Movement) and Jihočeské matky (South Bohemian Mothers)', *Environmental Politics* 12 (2003): 49–70. The historian Miroslav Vaněk offers scholarly Czech-language accounts of the history of the Czech environmental movement in the 1970s and 1980s. Miroslav Vaněk, *Nedalo se tady dýchat* [It was impossible to breathe here] (Praha: Ústav pro soudobé dějiny AV ČR, 1996); Miroslav Vaněk, 'Zelené mláďá' [Green youth], ed. by Miroslav Vaněk, *Ostrůvky svobody. Kulturní a občanské aktivity mladé generace v 80. letech v Československu* [Islets of freedom: Cultural and civic activities of young generation in the 1980s' Czechoslovakia] (Praha: Ústav pro soudobé dějiny AV ČR and Votobia, 2002), 237–72. The following English-language historical accounts go beyond the 1989 political change: Andrew Tickle and Josef Vavroušek, 'Environmental politics in the former Czechoslovakia', ed. by Andrew Tickle and Ian Welsh, *Environment and Society in Eastern Europe* (Harlow: Longman, 1998), 114–45; Petr Jehlička, 'The New Subversives – Czech Environmentalists after 1989', ed. by Helena Flam, *Pink, Purple, Green: Women's, Religious, Environmental, and Gay/Lesbian Movements in Central Europe Today* (Boulder: East European Monographs, 2001), 91–4.

⁴ Petr Jehlička and his colleagues found that most key figures of the movement in the late 1990s were veterans who joined the movement during the 1980s. Petr Jehlička, Philip Sarre and Juraj Podoba, 'The Czech Environmental Movement's Knowledge Interests in the 1990s: Compatibility of Western Influences with Pre-1989 Perspectives', *Environmental Politics* 14 (2005): 64–82.

⁵ Zsuzsa Gille, 'Legacy of Waste or Wasted Legacy? The End of Industrial Ecology in Post-Socialist Hungary', *Environmental Politics* 9 (2000): 203–31. Raymond Dominick made a similar point concerning the efficiency of the metals recycling system in former East Germany. Raymond Dominick, 'Capitalism, Communism and Environmental Protection. Lessons from German Experience', *Environmental History* 3 (1998): 322.

⁶ Albert Weale, *The New Politics of Pollution* (Manchester: Manchester University Press, 1992).

⁷ Van der Heijden, 'Environmental Movements'.

⁸ John Dryzek, *The Politics of Earth: Environmental Discourses* (Oxford: Oxford University Press, 1997).

⁹ Maarten A. Hajer, *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process* (Oxford: Oxford University Press, 1995).

¹⁰ For exceptions see van der Heijden, 'Environmental Movements', 201–7; Arthur, P.J. Mol, 'The Environmental Movement in an Era of Ecological Modernization', *Geoforum* 31 (2000) 45–56; David A. Sonnenfeld, 'Social Movements and Ecological Modernization: The Transformation of Pulp and Paper Manufacturing', *Development and Change* 33 (2002): 331–7.

¹¹ This transformation of the western environmental movement along the lines of ecological modernisation is described in Sonnenfeld, 'Social Movements', 331–7.

¹² See, for example, Barbara Jancar-Webster, 'Environmental Movements and Social Change in the Transition Countries', *Environmental Politics*, 7 (1998): 69–90; Jehlička, 'New Subversives', 91–4.

¹³ Jehlička, Sarre and Podoba, 'Czech Environmental Movement', 69–71.

¹⁴ See for example, Fagan, *Environment and Democracy*, 74–121.

¹⁵ Miroslav Vaněk refers to the 1973 quote of the ideologue of the scientific-technological revolution in Czechoslovakia and the director of the Institute of Philosophy and Sociology of the Czechoslovak Academy of Sciences, Radovan Richta: 'Many negative ecological phenomena arise primarily from insufficiently substantiated human interferences in nature, which corresponds with the initial phases of the scientific-technological revolution. Problems often occur not due to excessively active human interference in nature, but due to the insufficient human activity...' Vaněk, *Nedalo se*, 22.

¹⁶ For description of how the emphasis after the 1948 communist coup shifted from the humanistic education of the interwar period to technically focused education see Sharon L. Wolchik, *Czechoslovakia in Transition: Politics, Economics and Society* (London and New York: Pinter Publishers, 1991), 295.

¹⁷ For example, according to the list of all courses related to the environment taught at Charles University in the academic year 1993/94 compiled by the Charles University Center for the Environment, 191 out of the total of 211 were science based. Centrum Univerzity Karlovy pro otázky životního prostředí, *Seznam přednášek týkajících se problematiky životního prostředí na fakultách Univerzity Karlovy 1993/1994* [The list of environment-related courses at Charles University 1993/1994] (Praha: Univerzita Karlova, 1993).

¹⁸ Miroslav Kundrata, 'Czechoslovakia', in *Civil Society and the Environment in Central and Eastern Europe* ed. D. Fisher, C. Davis, A. Juras, V. Pavlovic (London: Ecological Studies Institute/Bonn: Institut für Europäische Umweltpolitik/Belgrade: Eko-Center, 1992) 34.

¹⁹ Jiří Musil, 'Education and Research in the Czech Republic: Burden of the Past and Hope for the Future', *East European Politics and Societies*, 7 (1993): 59–73.

²⁰ Dieter Rink, 'Environmental Policy and the Environmental Movement in East Germany', *Capitalism Nature Socialism* 13 (2002): 81–2. Bahro's book *Die Alternative: Zur Kritik des real existierenden Sozialismus* was published in Frankfurt am Main in 1977; Harich's book *Kommunismus ohne Wachstum. Babeuf und der Club of Rome* was published in Reinbek in 1975.

²¹ Jan Čeřovský, 'Czechoslovakia: Environmental Status Report 1988/1989', *Environmental Status Reports 1988/1989: Volume One: Czechoslovakia, Hungary, Poland*. Thatcham: IUCN (1990) 1–58.

²² Jonathan D. Oldfield and Denis J.B. Shaw, 'Revisiting Sustainable Development: Russian Cultural and Scientific Traditions and the Concept of Sustainable Development', *Area*, 34 (2002): 391–400.

²³ David J.M. Hooson, 'The Development of Geography in Pre-Soviet Russia', *Annals of the Association of American Geographers*, 58 (1968): 272.

²⁴ Tatyana Saiko, *Environmental Crises: Geographical Case Studies in Post-socialist Eurasia* (Harlow: Prentice Hall, 2001), 13.

²⁵ Two chapters on the former communist countries – the Soviet Union and Hungary – in the Social Learning Group's *Learning to Manage Global Environmental Risks* (Cambridge, The MIT Press, 2001) bring ample evidence of good environmental science coexisting with poor capacities for the development of environmental policies as a result of the framing of environmental problems as exclusively scientific matters. For more details see the chapter by Vassily Sokolov and Jill Jäger on the Soviet Union, 150–51, and that by Ferenc L. Tóth and Eva Hizsnyik on Hungary, 180–84. According to Tóth and Hizsnyik, their comparisons justify the extension of this analysis to other socialist countries in Central and Eastern Europe, 185.

²⁶ Bedřich Moldan, Jan Jeník and Jaroslav Zýka, *Životní prostředí očima přírodovědce: Člověk v biosféře* [The environment through the eyes of the scientist: Man in biosphere] (Praha: Academia, 1989, 2nd edition [1st edition 1979]).

²⁷ Bedřich Moldan, an analytical chemist by training, pursued a markedly interdisciplinary career. His work straddled chemistry, biology and geology. He was, between 1978 and 1992, a vice-chairman and secretary of Ekologická sekce (more discussion below). After 1989, he became the first Czech minister of the environment. He is now a Senator, a director of Charles University Environment Research Centre and a member of the Scientific Committee of the European Environmental Agency.

²⁸ Paul Duvigneaud, *Ekologická syntéza* (Praha: Academia, 1988) [Czech translation of *La synthèse écologique*, Paris: Doin editeurs, 1980].

²⁹ Jaroslav Stoklasa, *Historie Ekologické sekce Čs. biologické společnosti ČSAV* [The history of the Ecological Section of the Czechoslovak Biological Society of the Academy of Sciences] unpublished manuscript sent to the authors in June 2005.

³⁰ Václav Mezřický, one of the founding members of Ekologická sekce, quoted in Vaněk, *Nedalo se*, 40.

³¹ 'We regarded ecology as a political, and ecological activity, as a way in which the system could be destabilised, which would in turn enable us to open and reflect on this problematic.' Václav Mezřický, quoted in Vaněk, *Nedalo se*, 39.

³² Hardin's text was published as an appendix to the minutes of a meeting.

³³ Kundrata, 'Czechoslovakia', 34.

³⁴ Apart from *Životní prostředí očima přírodovědce* and *Ekologická syntéza*, only a limited number of other books on the environment, many of them of the popular scientific character, were published in Czech during the 1970s and 1980s, often as translations of Soviet authors: Alois Zlatník a kol., *Základy ekologie* [Fundamentals of ecology] Praha: Státní zemědělské nakladatelství, 1973; Z. Madar and A. Pfeffer, *Životní prostředí* [The environment] (Praha: Orbis, 1973); J.J. Dozhkin and I.I. Fetisov, *Rovnováha v přírodě* [Equilibrium in nature; translation from Russian] Praha: Horizont, 1973); Jean Dorst, *Ohrožená příroda* [Endangered nature; translation from French] (Praha: Orbis, 1974); Ivan Laptev, *Planeta rozumu* [The planet of reason; translation from Russian] Praha: Práce, 1974); Miroslav Martiš and Jan Šolc, *Země, krajina, člověk* [Land, landscape, man] (Praha: Horizont, 1977); I.K. Abadashev, *Život zítřka – tragédie nebo harmonie* [The life in the future: tragedy or harmony; translation from Russian] (Praha: Svoboda, 1978); Bedřich Moldan, *Koloběh hmoty v přírodě* [The cycle of materials in nature] (Praha: Academia, 1983); Bedřich Moldan and Tomáš Pačes, *Konec věku plýtvání* [The end of the wasteful era] (Praha: Mladá fronta, 1984); Václav Mezřický a kol., *Životní prostředí, věc veřejná i soukromá* [The environment: a matter both public and private]

(Praha: Práce, 1986); Václav Císař, *Člověk a životní prostředí* [Man and environment] (Praha: Státní pedagogické nakladatelství, 1987). Most of these books were used as supplementary readings on environmental study programmes. However, students on these programmes were required to read *skripta*, teaching texts written by university teachers for their own courses. These often heavily relied on the Soviet sources. Pavel Tobiášek's *Nauka o životním prostředí* [Theory of the environment] (Praha: Vysoká škola zemědělská, 1983) is a case in point. The overwhelming majority of these publications approached the environment from scientific point of view and as the titles suggest, were concerned with issues such as natural equilibrium, homeostasis, functioning of ecosystems and cycles of materials.

³⁵ Writing academic books on as sensitive a topic as the environment in 1970s and 1980s Czechoslovakia was a delicate balancing act. Authors who wished to refer to western sources had to carefully balance them with references to eastern sources, most often Soviet. This does not mean, however, that Czech authors would necessarily be in ontological and epistemological disagreement with their Soviet counterparts – both the Soviet and Czechoslovak literature on the environment was largely written by scientists.

³⁶ Following Saiko, *Environmental Crises*, in this paper we use this transcription of the surname, unless we cite other sources.

³⁷ Václav Mezříčský, professor of environmental law, interview with co-author, 6 June 2005, Faculty of Law, Charles University, Prague, Czech Republic (tape recording and handwritten notes in possession of the authors). Much of the environment-related academic activity in 1970s and 1980s Czechoslovakia was conducted within the framework of the UNESCO international programme Man and Biosphere (MAB), for which Vernadskiy's teachings about biosphere provided the ideological basis. George Kauffman, 'Vladimir Ivanovich Vernadsky (1863–1945), environmental pioneer: On the 70th anniversary of his biosphere concept', *South African Journal of Science* 92 (1996): 523. The importance of the UNESCO MAB programme in the pre-1989 Czechoslovakia is reflected, for example, in the support which the programme provided for the publication of Císař's *Člověk a životní prostředí*. Also the subtitle of the highly influential book by Moldan, Jeník and Zýka *Životní prostředí* was *Člověk v biosféře* (Man in biosphere).

³⁸ Jaroslav Procházka, Jaromír Pospíšil and Rudolf Orct, 'Dodatek. Některé teoreticko-metodologické otázky dalšího rozvoje ekologického poznání' [Annex: Some theoretical-methodological questions of further development of ecological knowledge] in Paul Duvigneaud, *Ekologická syntéza* (Praha: Academia, 1988) 382–387.

³⁹ Miloslav Lapka, senior researcher in the Institute of Landscape Ecology of the Academy of Sciences of the Czech Republic, telephone interview with co-author, 1 July 2005, (handwritten notes in possession of the authors).

⁴⁰ Miloslav Lapka, email correspondence with co-author, July 2005.

⁴¹ Jonathan D. Oldfield and Denis J.B. Shaw, 'V.I. Vernadsky and the Noosphere Concept: Russian Understandings of Society-Nature Interaction', *Geoforum*, accepted for publication, available online 2 August 2005 at <http://www.sciencedirect.com/science>.

⁴² Lapka, telephone interview with co-author, 1 July 2005.

⁴³ Jiří Papoušek, *Hovory o ekologii. Cesty k trvale udržitelnému Česku* [Interviews about ecology: Towards the sustainable Czechia] (Praha: Portál, 2000), 29.

⁴⁴ Papoušek, *Hovory*, 115.

⁴⁵ Libor Pecha, *Woodcraft: Lesní moudrost a lesní bratrstvo* [Woodcraft: sylvan wisdom and sylvan brotherhood] (Olomouc: Votobia, 1999), 178. Pecha's list also contains a number of non-academics, including Ivan 'Hiawatha' Makásek, the editor of the intrepid cult environmental magazine of the 1970s and 1980s *Nika*. Throughout the 1970s and 1980s Makásek was also a leading figure of Prague clandestine scout and woodcraft movement and in the 1990s edited a magazine for scouts and woodcrafters *Wampum Neskenonu*. In the 1980s, he was a member of the Ekologická sekce's steering committee.

⁴⁶ Jehlička, Sarre and Podoba, 'Czech Environmental Movement', 68.

⁴⁷ James Morton Turner traces the origin of woodcraft to the 1890s' US publications of manuals for woodsmen. James Morton Turner, 'From Woodcraft to 'Leave No Trace': Wilderness, Consumerism, and Environmentalism in Twentieth-Century America', *Environmental History*, 7 (2002): 464.

⁴⁸ Although Seton was initially part of the leadership of the Boy Scout movement in the US, he increasingly resented the military and authoritarian aspects of scouting. Seton's aims for the movement as set forth in the Birch Bark Roll (the promotion of interest in out-of-door life and woodcraft, the preservation of wildlife and landscape and the promotion of good fellowship among its members were further elaborated in his subsequent *The Book of Woodcraft and Indian Lore* (1912). Brian Morris, 'Ernest Thompson Seton and the origins of the Woodcraft movement', *Journal of Contemporary History*, 5, (1970): 187. Scholarly accounts of the history of the woodcraft movement in the USA and the UK can be found, for example, in H. Allen Anderson, 'Ernest Thompson Seton and Woodcraft Indians', *Journal of American Culture* 8 (1985) 43–50 (USA); David Prynne, 'The Woodcraft Folk and the Labour Movement 1925–1970', *Journal of Contemporary History* 18 (1983): 79–95 (UK); Rich Palser, "'Learn by Doing, Teach by Being": The Children of 1968 and the Woodcraft Folk', *Socialist History* 26 (2004): 1–24 (UK). In contrast, a scholarly English-language history of the woodcraft movement in the Czech Republic, the only country where the movement is still active in its nearly original form, does not exist. The only two books available – Pecha's *Lesní moudrost* and Milan Klimánek and František Kožíšek's (eds.), *Kniha o woodcraftu* [The book on woodcraft] (Katowice: Biblioteczka Walden) – are written in Czech.

⁴⁹ Seton visited Prague in December 1936 and held talks with various factions of the woodcraft and scout movements.

⁵⁰ E.T. Seton, described by H. Allen Anderson already in the mid-1980s as 'America's forgotten artist-naturalist' and 'relatively unknown to many Americans today' (Anderson, 'Ernest Thompson Seton', 43) is still widely known as a writer and educationalist in the present-day Czech Republic. A Prague-based publishing house Leprez has recently set out to publish the complete works of E.T. Seton in Czech. From 1997 to 2004 eleven out of the planned 14 books were published.

⁵¹ Marek Waic and Jiří Kössl, *Český trampingu 1918–1945* [Czech tramping 1918–1945], (Praha: Práh, Liberec: Ruch, 1992), 11, 13.

⁵² Jiří Vágner and Petr Procházka, 'Vývoj českého trampingu a budování trampských osad' [The history of Czech tramping and of building tramp settlements], ed. by Jiří Vágner and Dana Fialová, *Regionální diferenciaci druhého bydlení v Česku* [Regional differentiation of second housing in Czechia] (Praha: KSGRR, 2004), 59.

⁵³ Otakar Leiský, 'TIS – Nezávislé sdružení přátel přírody' [TIS – the independent association of friends of nature], *Veronica*, XVIII, 16th Special Issue (2004): 27.

⁵⁴ Vaněk, *Nedalo se*, 32.

⁵⁵ It is likely that Tis was the only legal organisation in the communist Czechoslovakia without the declaration of the Communist Party's leading role in society in its statutes. Dana Zajoncová, 'TIS: Svaz pro ochranu přírody, krajiny a lidí' [TIS: The association for protection of nature, landscape and people], (BA dissertation, Brno: Filozofická fakulta Masarykovy univerzity, 2003), ch. VII.

⁵⁶ For example, *Tramp* (Ostrava, Czechoslovakia) 9, November 1968, 21; *Tramp* 7, September 1968, 3; *Tramp* 2, February 1969, 19. The magazine was published only during the Prague Spring period in the late 1960s and was banned in 1970. A further interesting evidence of the close affinity between Tis members, tramps and scouts is a chart in a facsimile of the Czechoslovak communist secret police's document from 1976 that under the heading Tis reads: 'tramps, scouts, rightwing and criminal elements'. Libuše Cuhrová, 'Dvacet let ve stínu' [Twenty years in shade], ed. by Miroslav Vaněk, *Ostrůvky svobody. Kulturní a občanské aktivity mladé generace v 80. letech v Československu* [Islets of freedom: Cultural and civic activities of young generation in the 1980s' Czechoslovakia] (Praha: Ústav pro soudobé dějiny AV ČR and Votobia, 2002), 152.

⁵⁷ Former Tis activist and tramp, interview with co-author, 7 June 2004, Valašské Klobouky, Czech Republic (tape recoding and transcript in possession of authors).

⁵⁸ Three out of six founding members of the original Section of the National Museum Society, which later became Tis, were professional zoologists. Zajoncová, 'TIS: Svaz pro', ch. III.

⁵⁹ Zajoncová, 'TIS: Svaz pro,' ch. V.

⁶⁰ Národní fronta was an umbrella organisation for all mass organisations during the communist period.

⁶¹ Jan Čerovský refers to customary participation of and coordination among a range of stakeholders (groups of citizens, public institutions and economic subjects) in activities related to environmental protection during the communist period, an approach compatible with tenets of ecological modernisation. Jan Čerovský, 'Vývoj hnutí dobrovolných konzervátorů, zpravodajů a strážců přírody na území České republiky' [The history of the movement of voluntary conservators, rapporteurs and rangers in the territory of the Czech Republic], *Veronica*, XVIII, 16th Special Issue, 24–5.

⁶² Leiský, 'TIS – Nezávislé sdružení', 30.

⁶³ For example, the Tis's leading activists-scientists Eliška Nováková and Václav Petříček were also involved in Brontosaurus's campaigns. Vaněk, *Nedalo se*, 37; Zajoncová, 'TIS: Svaz pro', ch. IV and IX.

⁶⁴ Vaněk, *Nedalo se*, 36–7.

⁶⁵ Leiský, 'TIS – Nezávislé sdružení', 33.

⁶⁶ Vaněk, *Nedalo se*, 41.

⁶⁷ Out of 19 leading figures of the Czech environmental movement, interviewed in 1998/99 by Jehlička and his colleagues who held a university degree or were currently studying for it, seven had a background in scientific disciplines, including four who studied biology or ecology. Seven were graduates of polytechnics or agricultural universities, two respondents were lawyers, two studied linguistics, and one did sociology. Jehlička, Sarre and Podoba, 'Czech Environmental Movement', 68.

⁶⁸ Vaněk, 'Zelené mládí,' 250.

⁶⁹ For example, the environmental group *Děti Země* challenged the first increase in the price of the public transport and another group *Hnutí Duha* coordinated campaign for the protection of Czech railways as a network.

⁷⁰ Joe Smith and Petr Jehlička, 'Stories around food, politics and change in Poland and the Czech Republic', *Transactions of the Institute of British Geographers*, 32 (2007) (forthcoming).