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(IV)

Death by Landscape?[1]

Geo-Pathogenic Zones as Architectural and Urbanistic Phenomenon

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Abstract:
This paper focuses on the phenomenon called "geopathology". It searches for the theory and praxis as well as development in this minor field in the 1980s and 1990s in Czechoslovakia and later the Czech Republic. The debate on geo-pathogenic zones under the so-called normalization, perestroika and transformation periods is framed by sociopolitical coincidences with the crisis of modernity. Vojtěch Märc follows here a few different agents balancing on the unstable borders of medical, political or parapsychological discourses. The paper also focuses on key concepts of period debates on urbanism and architecture. The aim is to simultaneously explain the paranormal and the rational (scientific) discursive formations through the mutual connections between them. The author considers debates on geopathology to be a form of environmental critique (though not always fully developed at the theoretical level) while in collateral practical activities he identifies attempts to remedy the medical aspects of the built environment.

Keywords: architecture – parapsychology – geopathology – biopolitics – dowsers – beds

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In Czechoslovakia during the 1970s and 1980s, there was a hugely popular television serial called *Bakaláři* (Bachelors), the plotlines of which were based on stories sent in by viewers. In 1987, an episode was broadcast entitled *Proutkař* (The Dowser).[2] The opening shot is of a group of people in a field. Behind them we see a prefab housing estate on the outskirts of a small town nestling in the foothills of a mountain. An experienced dowser is instructing a young female apprentice, who challenges her teacher to track down water at her father-in-law's weekend cottage. At the story's climax, the well-meaning dowser, thanks to his uncanny sensitivity, reveals the girl's illegitimate pregnancy before the very eyes of her jealous husband. The television programme treats the preternatural abilities of the water diviner as casually as it does the intrigues of family relationships. The opening shots of the location, which include a housing estate stretching all the way from the town centre to the surrounding countryside, and a nearby cottage, could almost function as the model of a conceptual space in which a debate is being played out not only regarding architecture and urban planning, but also the "geopathogenic zones" that dowsers were often required to search for in addition to water. The prefab apartment blocks encapsulate the attempts being made at that time to resolve the housing crisis using the resources of the industrialised construction industry, while the cottage represents an environment conducive to private self-realisation and the search for a compensatory relationship to nature.

"Geopathogenic zones" were defined as areas that had an adverse effect on the health of organisms due to a kind of radiation given off by irregularities in the subsoil. This could be due to the groundwater, geological faults or the technical infrastructure. In this text, I will attempt to map this controversial phenomenon. At the same time, I will track the processes by which it materialised both within the context of contemporary debates on architecture, town planning and the environment, and through an examination of the opportunities for action and negotiation of individual actors. Just as, when all is said and done, the episode of the popular serial referred to above is more about familial, romantic and work relationships than the efficiency of a forked stick when finding water, I will be interested above all in the social relations within which geopathogenic zones (GPZs) were manifest. Rather than offering an exhaustive explanation of the phenomenon, I will seek to understand its appeal and scope within specific spatial and political contexts.

I will try to show that problems were articulated in a particular way vis-à-vis the phenomenon of GPZ that also featured in theories of architecture, urban planning and the environment. Systemic and ecological approaches have seen the harmful effects of the environment on humans have come to the forefront of interest, not only as regards industrial pollution, but also architecture and town planning,[3] while semiotic approaches have analysed the communicative function – often dysfunction – of buildings and cities. In some respects GPZ-related practices may have offered more user-friendly solutions than, for instance, Kevin Lynch's neo-behaviourist "image of the city", something that is difficult to rectify in practice, or Christian Norberg-Schulz's phenomenological "spirit of place".[4]

2 Episode 20 of season 16, directed by Vojtěch Štursa. My thanks to Marianna Placáková for drawing my attention to this episode.

3 See, for example, Zdeněk LAKOMÝ, *Člověk mění svět: Civilizace, kultura a životní prostředí*, Praha: Odeon 1976.

4 Kevin LYNCH, *The Image of the City*, Cambridge, MA: The MIT Press 1960. Christian NORBERG-SCHULZ, *Genius loci. Towards a Phenomenology of Architecture*, New York: Rizzoli 1980.

The gradual despoliation of the urban and natural landscape during the 1970s and 1980s prompted Czechoslovak theorists to claim there was an ever more urgent "need to define architecture and urban planning as the creation of psychologically relevant qualities of the environment".[5] This process would include research into the "psychological and social effect of the environment and not just the functional and hygienic concept of the city space".[6] In 1981, the architectural theorist Jiří Ševčík, drawing on the work of Lynch and Norberg-Schulz, questioned not only the manner in which various problems had been solved up till then, but whether said problems were even resolvable: "The principle of functional rationalism, by means of which architecture must reveal the basic human functions for which it must then find the correct solution, has been shown to be excessively abstract and universal", he wrote in *Architektura ČSR* (Architecture of the CSR). He went on to claim that "the space of our existence is not metrically quantifiable, but relates to an ancient symbolism based on embodied perception".[7] The initial experience of the inhospitable city, to which the disorientation described by Lynch corresponded,[8] only grew worse with the crisis of organised modernity.[9]

Crisis spatial therapy

In the TV serial referred to above, the central character considers himself an amateur. Nevertheless, he describes his dowsing experiments as being of "real scientific interest" and "basically scientific research". This inadvertently suggests some contemporary doubts regarding the social role of experts, be they scientists, doctors or architects. Such doubts proliferated around various crises of the time, to which I will relate GPZs as though to abstract coordinates in an attempt to localise them, whether they involve the crisis of the sciences (and pseudo-sciences) as an important battlefield of the Cold War,[10] the crisis of technocracy,[11] the crisis of ideological consensus,[12] environmental crises of varying

5 Jiří ŠEVČÍK – Ivana BENDOVÁ – Jan BENDA, "Obraz města Mostu", *Architektura a urbanismus*, vol. 12, 1978, no. 3, pp. 165–178, cit. p. 165.

6 *Ibid*.

7 Jiří ŠEVČÍK, "Modernismus postmodernismus manýrismus", *Architektura ČSR*, vol. 40, 1981, no. 3, pp. 135–139.

8 Hashim SARKIS, "Disoriented: Kevin Lynch, around 1960", in: Arindam DUTTA (ed.), *A Second Modernism: MIT, Architecture, and the 'Techno-Social' Moment*, Cambridge, MA: MIT Press 2013, pp. 394–435.

9 Peter WAGNER, *A Sociology of Modernity: Liberty and Discipline*, London – New York: Routledge 1994.

10 Jen THIEL – Peter Th. WALTHER, "'Pseudowissenschaft' im Kalten Krieg: Diskreditierungsstrategien in Ost und West", in: Dirk RUPNOW – Veronika LIPPHARDT – Jens THIEL – Christina WESSELY (eds.), *Pseudowissenschaft: Konzeptionen von Nichtwissenschaftlichkeit in der Wissenschaftsgeschichte*, Frankfurt am Main: Suhrkamp 2008, pp. 309–342.

11 Vítězslav SOMMER et al., *Řídit socialismus jako firmu: Technokratické vládnutí v Československu, 1956–1989*, Praha: Ústav pro soudobé dějiny 2019. Michal KOPEČEK (ed.), *Architekti dlouhé změny: Expertní kořeny postsocialismu (1980–1995)*, Praha: Argo 2019.

12 Jakub RÁKOSNÍK – Matěj SPURNÝ – Jiří ŠTAIF, *Milníky moderních českých dějin: Krize konsenzu a legitimity v letech 1848–1989*, Praha: Argo 2018, s. 251–296. Michal PULLMANN, *Konec experimentu: Přestavba a pád komunismu v Československu*, Praha: Scriptorium 2011.

degrees,[13] healthcare and medical crises centred in the final analysis around civilisational diseases,[14] as well as political crises, which, according to Václav Havel (and many others), have revealed "the underlying issue, namely, the crisis of contemporary technological society as a whole…".[15] These are often interconnected frameworks, a detailed description of which (along with the necessary and convincing interdependencies) is beyond the scope of this text.

The backdrop to all of this could be recognised in the crisis of modern rationality, which took place on both sides of the Iron Curtain during the 1970s and saw a boom in various "irrational" phenomena ranging from astrology to highly charged eschatological expectations.[16] Certain shocks were even to impact urban and social planning, which represented "a privileged experimental site, where normed forms of modern rationality were turned into a practice and a technocratic politics".[17] The spatial dimensions of these contradictions did not, therefore, escape theorists of urbanism and sociologists of housing, who saw behind the "conflict between a technocratic and humanist approach to the social development of land" the "dilemma of the civilisational and ecological concept of the social conditions of land", or, alternately, the "dilemma of [its] objective and subjective evaluation", i.e. a conflict between expert and user-based approaches.[18] The miscellaneous manifestations of "anti-scientism" accompanying the "crisis of industrial society, modern civilisation, Western society", were received with varying degrees of sympathy as a counter-reaction to what had previously been a boundless belief in the possibilities of science and technology.[19] Anecdotal proof of this claim is provided in the form of horoscopes for architects that were published at the end of 1987 in the journal *Československý architekt* (Czechoslovak Architect), and perhaps in the phenomena of GPZ themselves, which are now revealed not to be bizarre, random anomalies, but collateral evidence of the multiple crises referred to.

Geopathogenic zones are based on the assumption that the parameters of a space impact in some way the health of the organisms found within said space. And so when mapping this phenomenon we focus less on aesthetic than on "an-aesthetic" qualities. The

13 Miroslav VANĚK, *Nedalo se tady dýchat*, Praha: Ústav pro soudobé dějiny – Maxdorf 1996, cit. p. 44, n.
Matěj SPURNÝ, "Mezi vědou a politikou: Ekologie za socialismu a kapitalismu (1975–1995)", in: KOPEČEK, *Architekti dlouhé změny*, pp. 275–314.

14 Sarah MARKS, "Ecology, Humanism and Mental Health in Communist Czechoslovakia", in: Sarah MARKS – Mat SAVELLI (eds.), *Psychiatry in Communist Europe*, London: Palgrave Macmillan 2015, pp. 134–152.

15 Václav HAVEL, *Moc bezmocných*, Praha: Lidové noviny 1990, pp. 58–59.

16 Matthew CONNELY, "Future Shock: The End of the World as They Knew It", in: Niall FERGUSON – Charles S. MAIER – Erez MANELA – Daniel J. SARGEANT (eds.), *The Shock of the Global: The 1970s in Perspective*, Cambridge, MA – London: The Belknap Press of Harvard University Press 2010, pp. 337–350.

17 Paul RABINOW, *Essays on the Anthropology of Reason*, Princeton, NJ: Princeton University Press 1996, p. X. The crisis of modernist planning in Czechoslovakia is examined by Petr ROUBAL, "Krize urbanistické moderny v socialismu: Případ plánování Prahy od šedesátých do osmdesátých let 20. Století", *Soudobé dějiny*, vol. 24, no. 3, 2017, pp. 335–360, and "Plánování Prahy v 80. a 90. letech: Sebedestrukce urbanistické expertizy", in: KOPEČEK, *Architekti dlouhé* změny, pp. 315–354.

18 Michal ILLNER, "Dilemata při hodnocení sociálních podmínek území", *Výstavba a architektura*, vol. 33, 1987, no. 3, appendix "Sociologie bydlení", p. 13.

19 Miloslav PETRUSEK, "Poznámky k tzv. humanistické kritice vědeckotechnického rozvoje se zřetelem k urbanizačnímu procesu", *Výstavba a architektura,* vol. 33, 1987, no. 3, appendix "Sociologie bydlení", pp. 7–10.

same could be said with regard to a key component of the history of modern architecture and design, the task of which consists of a "medical" remediation or "an-aesthetic" mitigation of the technological threats – in addition to the natural and social threats – that architecture has found ways of dealing with in the past but which are being significantly transformed by modern technology.[20] Such an approach could be based on Beatriz Colomina's medical interpretation of the history of modern architecture, which takes as its starting point the thesis that theories of architecture have since the time of Vitruvius been based on theories of medicine.[21] To the statement that "every age has its signature afflictions", Colomina replies that "each affliction has its architecture".[22] It would appear that, depending on the circumstances, architecture can be seen as either cause or effect, diagnosis or treatment.

The practice of the detection and neutralisation of GPZs would thus represent the procedures of diagnosis or therapy extrapolated to the crisis of rationality referred to above, in which questions of science intersect not only with questions of health, housing and building construction, but also with governance. The degree to which they are linked correlates with the interconnectedness of the (constructed) environment, medicine and politics, which can be illustrated in three tendencies prevalent at that time: the environmental turn in the sciences and architecture; the politicisation of medicine in socialist states;[23] and the modern "medicalisation" of the environment. This node points to certain changes in the character of power, as described by Michel Foucault, who uses the example of the spatial and social dimensions of 18th-century medicine[24] in order to examine the relationship between modern techniques of governance, the urban space, and medical knowledge. According to Foucault, all of this came together in biopolitics, which primarily deals with the conditions of the productive and reproductive life of individuals and populations, henceforth to be regarded as subjects of care and administration.

The conditions pertaining in Czechoslovakia can also be seen as a variation on biopolitical developments in the sphere of technologies of power, as is clear above all in the late normalisation and transformation period. By no means without preconditions, but instead with a new dynamic, the policy of care and the belief in the effectiveness of architecture (and the environment in general) intertwined to varying degrees.

And thus an emphasis on psychology came to the fore. In 1981, Miluše Sedláková, a pioneer in Czech architectonic psychology and an employee of the Research Institute for Building and Architecture (Výzkumný ústav výstavby a architektury or VÚVA), wrote

20 The term "anaesthetic" as used within the context of (architectural) design was devised by Beatriz COLOMINA – Mark WIGLEY, *Are We Human? Notes on an Archeology of Design*, Zürich: Lars Müller 2016, pp. 89–110. Cf. John HARWOOD, "The Interface: Ergonomics and the Aesthetics of Survival", in: *Governing by Design: Architecture, Economy, and Politics in the Twentieth Century*, Pittsburgh: University of Pittsburgh Press 2012.

21 Beatriz COLOMINA, *X-Ray Architecture*, Baden: Lars Müller Publishers 2019, p. 13.

22 COLOMINA, *X-Ray Architecture*, s. 182. Cf Byung-Chul HAN, *The Burnout Society*, Stanford: Stanford University Press 2015, p. 1.

23 Jaroslav PROKOPEC et al. (eds.), *Zdravotnická politika v ČSR mezi XIV. a XVI. sjezdem KSČ (Edice dokumentů)*, Praha: Avicenum 1984.

24 Michel FOUCAULT, "The Politics of Health in the Eighteenth Century", in: James D. FABION (ed.) – Michel FOUCAULT, *Essential Works of Foucault, vol. 3: Power*, New York: New Press, pp. 90–105. Michel FOUCAULT, "The Birth of Social Medicine", *Ibid.* pp. 134–156. Michel FOUCAULT, "The Incorporation of the Hospital into Modern Technology", in: Jeremy W. CRAMPTON – Stuart ELDEN (eds.), *Space, Knowledge and Power: Foucault and Geography*, Aldershot: Ashgate 2007, pp. 141–151.

of the need for "spatial therapy" (*prostoroterapie*).[25] According to Sedláková, "the structuring of space has an important emotional effect, and thus participates significantly in the therapeutic process", a fact that applies to both the physically and mentally ill. However, this "effect on the architectural design of living space can be used not only in buildings intended for medical purposes, but to a certain extent wherever and whenever architecture impacts a person". This recognition, though not the implementation, of similar ideas was confirmed by the widely discussed, albeit rarely applied, Resolution of the Government of the Czechoslovak Republic No. 333/1982, which set forth the "mission and direction of the ongoing development of socialist architecture and town planning".[26] This included a requirement that "architectural and urban projects realised by means of the construction industry satisfy, in accordance with the economic and cultural level of our society, its growing material, social and intellectual needs, including aesthetic needs, and become an active cultural tool for the formation of socialist Man and his way of life."[27]

In debates taking place at that time, these and similar claims were intended to buttress the creative authority of architects.[28] Nevertheless, under the conditions of later normalisation, reconstruction and transformation they found a response among other social groups too. I will therefore attempt to demonstrate the pathogenicity of GPZs within biopolitical contexts to be a kind of disease of the time. I believe that if we examine the reception accorded architecture, urban planning and the built environment not only on the level of its interpretation by experts and laypeople, but also in respect of the way it was utilised on an everyday basis,[29] the debate centred around GPZs will prove to be a less elite variant of discussions taking place in architectural theory at that time, while the practice that grew up around them will be revealed as a popular version of "spatial therapy". If we wish to follow the events of that time, in addition to sensory perception it will be necessary to investigate extrasensory perception; in addition to the psychology of architecture it will be necessary to investigate its parapsychology; and in addition to the importance of science for architecture it will be necessary to examine the role of pseudoscience. To begin with, therefore, a brief historical excursion needs to be undertaken into this unstable terrain.

Earth radiation, irritant strips, the global grid

During the 1980s, parapsychological associations began to carve out a place for themselves as embodying a scientific response to the mass popularity of spiritualism and other such movements.[30] Their subsequent research and publications also reawakened an interest in dowsing, for example through the writings of the English physicist William

25 Miluše SEDLÁKOVÁ, *Úvod do architektonické psychologie*, Praha: VÚVA 1981, p. 29.
26 Karolina JIRKALOVÁ, "Politika architektury a krize socialistického města", *Sešit pro umění, teorii a příbuzné zóny*, 2020, no. 28, pp. 56–76.
27 *Poslání a směry dalšího rozvoje socialistické architektury a urbanismu v ČSR: Usnesení vlády ČSR č. 333/1982*, Praha: VÚVA 1988, p. 14.
28 Radomíra SEDLÁKOVÁ, *Zásady a kritéria ideovosti architektury*, Praha: VÚVA 1982.
29 David CROWLEY – Susan E. REID (eds.), *Socialist Spaces: Sites of Everyday in the Eastern Bloc*, Oxford – New York: Berg, 2002, pp. 1–22.
30 A good introduction that contains an overview of the relevant literature is by Bernard Dionysius GEOGHEGAN, "Occult Communications: On Instrumentation, Esotericism, and Epistemology", *communication +1*, vol. 4, 2015, no. 1, pp. 1–12.

F. Barett.[31] Barett's work attracted considerable attention on the European mainland, especially in Germany, which, thanks to Agricola's work *De re metallica* from 1556, was deemed to be the cradle of dowsing,[32] despite Agricola's own scepticism regarding the search for ore deposits with the aid of a divining rod.[33] At the start of the twentieth century, the folk tradition of searching for water or ores using a rod underwent modernisation. From the 1910s right up to the rise of Nazism, water divination researchers in Germany met at conferences and published reports on their research.[34] Even back then, a connection was made between divination and certain professions that was to continue. In addition to doctors and physicists, dowsers were often recruited from the ranks of architects and civil and other engineers, and it was they who encouraged lively discussions in the press.

In the 1920s and 1930s, the popularity of dowsing in Germany was part of a "new ecological holism, a sensibility linking individuals to their total understood environment, at once social, economic, and physical".[35] The divining rod acquired the status of a preventative health tool within what was at that time an emerging awareness of environmental medicine, inter alia in connection with the *Lebensreform* movement.[36] Ideas soon spread within this circle regarding the harmful effect of certain places and the possibility of detecting them through divination, though the causes behind such effects remained difficult to define with any degree of accuracy. By the latter half of the 19th century, the Viennese neurologist Moritz Benedict recommended searching for "pathogenic sites" using rods. His suggestion was systematised by the German naturalist Gustav Freiherr von Pohl, who from 1929 to 1931 carried out a dowsing survey of allegedly carcinogenic disorders of the subsoil of Vilsbiburg in Bavaria on the basis of cancer statistics.[37] His study of what he called "earth radiation" (*Erdstrahlen*) met with huge interest and inspired a host of similar titles. From the end of the 1920s onwards, Bavaria was the centre of dowsing. In Munich the malignant influence of groundwater was discussed within the context of a number of architectural projects.[38] As the most renowned diviner of his time, in 1934 Von Pohl was even commissioned to undertake a telesthetic investigation of the Reich Chancellery so as to rule out the presence of dangerous underground radiation.[39]

31 William F. BARRETT – Theodore BESTERMANN, *The Divining Rod: An Experimental and Psychological Experimentation*, London: Leuthen and Co. 1926.

32 Georgius AGRICOLA, *Jiřího Agricoly Dvanáct knih o hornictví a hutnictví*, Praha: Národní technické muzeum 1976, pp. 32–34.

33 Parapsychological phenomena were widely discussed between the wars in Czechoslovakia. Dowsing was subject to detailed examination as part of research into "the history of superstition and cultural relics" by the ethnologist Čeněk ZÍBRT, *Virgule a siderické kyvadlo: Hledání vody, kovů a pokladů čarovným proutkem*, Praha: Sfinx 1922.

34 Corinna TREITEL, *A Science of the Soul: Occultism and the Genesis of the German Modern*, Baltimore: Johns Hopkins University Press 2004, s. 150–154. Treitel rejects the idea of the inherently non-modern character of the occult as paving the way for Nazism, but on the contrary, shows how its many variations were perfectly in tune with liberal-democratic society.

35 *Ibid.*, p. 150.

36 *Ibid.*, p. 153, with a reference to Carl von KLINCKOWSTROEM – Rudolf von MALTZAHN, *Handbuch der Wünschelrute: Geschichte, Wissenschaft, Anwendung*, München – Berlin: R. Oldenbourg 1931.

37 Gustav Freiherr VON POHL, *Erdstrahlen als Krankheits- und Krebserreger*, Diessen: Joseph C. Hubers Verlag 1932.

38 Otto PROKOP et al., *Lékařské vědy proti pověrám a šarlatánství*, Praha: Avicenum 1984, p. 89.

39 TREITEL, *A Science of the Soul*, p. 213.

The pre-war research conducted into "irritant strips" (*Reizstreifen*) was picked up by the doctors Ernst Hartmann from Germany and Manfred Curry from Switzerland, who in the 1950s described a kind of "global grid" (*Globalgitter*) that formed a network of narrow strips often circling the Earth. While von Pohl related earth radiation to groundwater currents, global networks were associated with cosmic or underground radiation of an unknown character. Blocking this harmful radiation, whatever its origin, was one of the tasks of "building biology" (*Baubiologie*), a discipline founded in the 1960s, the foundations of which were laid by the physician Hubert Palm in an attempt to create a specific corrective for the negative effects of modern building technology.[40] Research into geopathogenic zones in West Germany culminated at the turn of the 1980s and 1990s, when it became officially approved and financed by the government.[41] Similar state-financed research was also taking place in Austria at the same time.[42] Though these projects did not prove the effectiveness of dowsing or the danger of GPZs, as far as experts in Czechoslovakia were concerned they lent legitimation to the civic and official awareness that they had been attempting to promote in their own country.[43]

Paranormal normalisation

Notwithstanding a certain awareness of what was happening in Germany, in Czechoslovakia opinions regarding GPZs pursued their own path. They were framed by the gradual institutionalisation of parapsychology, regarding which a critical debate had been initiated in the 1960s in the Czechoslovak press, as indeed in the media of other Eastern bloc countries. In contrast to the harsh anti-clericalism and the fight against religion and superstition that had characterised the 1950s,[44] Stalin's death saw a gradual ideological relaxation of the academic environment, which allowed for both the importation of foreign ideas and the rediscovery of domestic ones. This meant that in the relevant area of research, the shift from which parapsychology had emerged at the end of the 19th century was repeated under particular conditions. Though parapsychology had initially represented an attempt to place research into paranormal phenomena on a scientific footing, it had never won complete acceptance within the scientific community, and therefore had to be revived within a new ideological framework. A rational approach to irrational phenomena found firm backing in Pavlov's class-conscious materialist neurophysiology and was in accordance with Marxism-Leninism as advocated by Soviet scientists such as the Russian

40 Hubert PALM, *Das gesunde Haus. Das kranke Haus und seine Heilung. Die Zivilisationskrankheiten der Architektur*, Konstanz: Verlag Gesundheitsdienst 1968.

41 Herbert L. KÖNIG – Hans-Dieter BETZ, *Erdstrahlen? Der Wünschelruten-Report: Wissenschaftlicher Untersuchungsbericht*, Schorndorf: Betz 1989. Scepticism of König and Betz's findings was expressed by Hans BINDER (ed.), *Macht und Ohnmacht des Aberglaubens: Magie, Wissenschaft, Pseudowissenschaft*, Pähl: Hohe Warte 1992.

42 Otto BERGSMAN, *Risikofaktor Standort: Rutengängerzone und Mensc*h, Wien: Facultas Universität Verlag 1990.

43 Zdeněk GARDAVSKÝ, "Vládní a vědecké orgány Spolkové republiky Německo ve vztahu k problematice geopatogenních zón a k proutkařskému fenoménu", in: *Geopatogenní zóny*, Praha: Dům techniky Praha – Společnost pro techniku prostředí 1990, pp. 6–24. Articles dealing with specific areas appeared in various journals: for example, see nk, "Proutkaření a věda", *Věda a život*, 1989, no. 5, pp. 67–69.

44 The most important Czechoslovak "demystifier" at the time was the psychiatrist Ivan Horvai (1926–1970). See his book *Lékařská věda v boji proti náboženství a pověrám: Sborník přednášek*, Praha: Československá společnost pro šíření politických a vědeckých znalostí 1962.

physiologist Leonid L. Vasiliev.[45]

The Cold War was a key framework within which parapsychological research was carried out on both sides of the Iron Curtain up until the end of the 1980s. The attempts being made at that time to instrumentalise rationality in modern technologies of governance and control gave rise to various irrational constructs.[46] The mutual suspicion and rivalry that existed between both camps meant that such research was conducted against the background of a fear that the opposing side might stumble upon undreamt of and potentially dangerous knowledge first. This in turn saw primary consideration given to how such knowledge might be used by the military or intelligence services. In fact, this research and the application thereof was more frequently undertaken in the civilian sphere.

In the Czechoslovak Socialist Republic, similar research projects had been underway under the umbrella terms "psychotronics" and "psychoenergetics" since the end of the 1970s.[47] With the arrival of the normalisation period, these programmes were not halted, but, on the contrary, now acquired the institutional patronage of technical universities and several businesses, which they maintained until the start of the 1990s. A leading figure was František Kahuda, a professor, physicist, and from 1954 to 1963 Minister of Education, who in 1982, with his theory of particles of mental energy he called "mentions", founded the Psychoenergetic Laboratory at the University of Chemistry and Technology in Prague.[48] Another important centre was the Research Institute for Psychotronics and Juvenology,[49] founded in 1980 at the same university and headed by the literary scholar Zdeněk Rejdák, who among other things was president of the International Association for Psychotronic Research (IAPR). Rejdák described the discipline as follows:

> [Psychotronics] is concerned with the extraordinary abilities of man, which are sometimes manifest inadvertently, but which can just as well be stabilised in certain individuals and examined in the laboratory with the help of training. These abilities are a manifestation of certain specific neurophysiological and physiological processes of the human body. They are connected to a certain energetic form that is exteriorised by the human organism.[50]

Unlike Kahuda, Rejdák and his colleagues did not on the whole indulge in physical speculation, but focused on the possible application of psychotronics and the creation of an international network of experts.[51]

45 Leonid Leonidovič VASILIEV, *Tajomné javy ľudskej psychiky*, Bratislava: Osveta 1964, pp. 9–11; cf. Wladimir VELMINSKI, *Homo Sovieticus: Brain Waves, Mind Control, and Telepathic Destiny*, Cambridge, MA: MIT Press 2017.

46 For instance cf. Paul ERICKSON – Judy L. KLEIN – Lorraine DASTON – Rebbeca LEMOV – Thomas STURM – Michal D. GORDIN, *How Reason Almost Lost Its Mind: The Strange Career of Cold War Rationality*, Chicago – London: University of Chicago Press 2013.

47 Sheila OSTRANDER – Lynn SCHROEDER, *Psi: Psychic Discoveries behind the Iron Curtain*, London: Abacus 1973.

48 An important place in the history of Czech pataphysics was accorded to Kahuda by Vladimír BORECKÝ, *Zrcadlo obzvláštního (z našich mašíblů)*, Praha: Hynek 1999, pp. 106–112.

49 "Juvenology" was to be the science of youthfulness and the possibilities of its prolongation.

50 Zdeněk REJDÁK (ed.), *Telepatie a jasnovidnost*, Praha: Svoboda 1970, p. 7.

51 This network was indeed global, as evidenced by the correspondence contained in Rejdák's estate, which is held by the Medical Museum of the National Medical Library in Prague.

At the First International Conference on Psychotronic Research, which took place in Prague in 1973, the Kutná Hora-based neurologist Jiří Bradna made only brief reference to the adverse effects of groundwater in his long paper on dowsing. He had probably learned of these effects from publications by the sceptical doctor Otto Prokop, who lived and worked in East Germany.[52] The first research into GPZs took place in Czechoslovakia at the end of the 1970s at the Department of Psychiatry of the Faculty of General Medicine at Charles University in Prague at the instigation of Zdeněk Rejdák.[53] According to Rejdák, the research outcomes confirmed the need "to take this issue seriously, above all at a time when morbidity rates are rising, since no factor that could negatively impact a person should be overlooked".[54]

In addition to the institutionalisation of psychotronic workplaces at the University of Chemistry and Technology (VŠCHT) at the start of the 1980s, another milestone was the 1982 regulation of the Czech and Slovak government on the provision of services on the basis of a permit from the National Committee – in effect the legalisation of dowsing. For dowsers themselves, and perhaps for their clients, this represented recognition of their professional status.[55] Sceptics amongst the ranks of scientists were outraged by what they considered the official approval granted divination, an outrage captured well by what the physicists Luděk Pekárek and Milan Rojko wrote in the journal *Pokroky matematiky a fyziky* (Advances in Mathematics and Physics) in 1991:

> Over the last fifteen years or so, dowsing has been granted an unusually high profile in Czechoslovakia and promoted as being an effective method, albeit one that science is as yet unable to explain, for searching for water and ores, for diagnosing diseases, and for designating what dowsers and their adherents are pleased to call geopathogenic zones. Over the last few years the promotion of dowsers on television and radio, in the daily press and in popular magazines has led to a situation in which the National Committees are granting official work permits to dowsers. The search for geopathogenic zones is often specifically mentioned in these permits. Recently, not only individuals, but even cooperatives and private enterprises have been busily designating geopathogenic zones on land and in apartments.[56]

Contemporary sources allow us to determine the nature of dowsing at that time, though not the extent to which it was carried out. It seems that the ongoing debate on GPZs was at its most intense at the turn of the 1980s and 1990s, when it reverberated throughout

52 Jiří BRADNA, "Za tajemstvím virgule", in: Zdeněk REJDÁK (ed.), *I. konference o výzkumu psychotroniky: Sborník referátů. 2. díl*, Praha: Dům techniky ČSVTS Praha 1983, pp. 97–103.

53 Zdeněk GARDAVSKÝ, *Problém geopatogenních zón jako architektonický a urbanistický fenomén*, Brno: SÚRPMO Brno 1984. I would like to thank Jiří Hlinka for very kindly making available Gardavský's report and other sources.

54 Zdeněk REJDÁK, "Diskontinuitní zóny", in: collective, *Geopatogenní zóny. Sborník ze semináře*, Praha: Dům techniky 1990, pp. 53–54. Cf. Zdeněk REJDÁK – Michael ČERNOUŠEK – Jaroslav KULHAVÝ, *Objektivizace negativního vlivu geopatogenních zón na* organismy*: Výzkumná zpráva*, Praha: VŠCHT 1983.

55 Jan VLASÁK, "Výuka proutkařství", in: *Výzkum a praktické využití biolokace*, Praha: ČSVTS 1987, pp. 84–85.

56 Luděk PEKÁREK – Milan ROJKO, "Geopatogenní zóny a fyzika", *Pokroky matematiky, fyziky a astronomie*, vol. 36, 1991, no. 1, pp. 24–37, cit. pp. 24–25.

the media and popular culture. Advertisements were posted in newspaper and magazines by dowsers offering to detect GPZs and protect residents and builders against their effects. The proceedings of seminars devoted to the topic were published, to be joined after 1989 by a number of manuals aimed at apartment residents, builders and gardeners. The search for GPZs found a fertile breeding ground, for instance, in regional homeland studies and amateur archaeology.[57] From the mid-1980s onwards, practical dowsing courses were held in various parts of the country and backed up by lectures.[58]

Monumental oncology

GPZs found a cosy niche for themselves on the fringes of architectural discourse. Prior to the 1990s, publications on construction biology were probably difficult to get hold of in Czechoslovakia, and information about the topic was meagre and patchy. Even though the volume of publications in West Germany had been rising since the 1950s,[59] as late as 1986 an article by Jana Kopecká in *Výstavba a architektura* (Building and Architecture), the in-house journal of the Research Institute for Building and Architecture, was still referring to building biology as a "new trend in architecture".[60] And so an exceptionally effective channel for raising awareness of building biology and GPZs in the CSSR was the manual *Architects' Data* (*Bauentwurfslehre*) by Ernst Neufert. This influential architectural handbook, which set forth the appropriate dimensions of just about all elements of the built environment, first came out in 1936, after which it was reprinted and updated dozens of times in many different translations. It became a powerful instrument for the standardisation of the living environment and, according to its critics, a means of standardising its inhabitants.[61] Neufert's book also assisted in the "normalisation" of building biology, which had been dealt with in a section added to the 30th German edition of the book in 1979.[62] Drawing on the work of Ernst Hartmann and Hubert Palm, Neufert described ground radiation as a "so-called global network" consisting of strips approximately 20cm wide stretching from the north to the south magnetic pole, and in Central Europe spaced about 2.5 m from each other, to which other strips at two-metre intervals were connected at a right angle.[63] According to Neufert, the network became especially pathogenic when it encountered geological faults and, in particular, groundwater. Experience has

57 am-, "Hanácká vlastivěda v Moskvě", *Stráž lidu,* vol. 60, 29. 11. 1980, no. 141, p. 4.

58 See, for instance, the classified advertisement in the journal *Architekt,* vol. 36, 1990, no. 15, p. 2.

59 Ernst HARTMANN, *Geopathie*, Ulm: Haug 1954; Ernst HARTMANN, *Krankheit als Standortproblem*, Heidelberg: Haug 1964.

60 Jana KOPECKÁ, "Nový trend v architektuře – stavební biologie", *Výstavba a architektura,* vol. 32, 1986, no. 1, pp. 50–52.

61 Nader VOSSOUGHIAN, "Standardization Reconsidered: *Normierung* in and after Ernst Neufert's *Bauentwurfslehre* (1936)", *Grey Room* 2014, no. 54, pp. 33–55.

62 Ernst NEUFERT, *Bauentwurfslehre: Grundlagen, Normen, Vorschriften über Anlage, Bau, Gestaltung, Raumbedarf, Raumbeziehungen, Maße für Gebäude, Räume, Einrichtungen, Geräte mit dem Menschen als Maß und Ziel. Handbuch für den Baufachmann, Bauherrn, Lehrenden und Lernenden*, Braunschweig – Wiesbaden: Vieweg 1979. The section devoted to building biology remained in other editions and translations until the 40th edition of 2012, though it does not appear in the latest editions to date from 2016 and 2019. It was also retained in the 33rd edition of 1992, which was the first to be translated into Czech in 1995. Neufert oversaw revisions to his book right up until his death in 1986.

63 *Ibid*., pp. 29–31.

demonstrated, he wrote, the harmful physiological effects of these strips, especially at points of intersection and during prolonged and repeated exposure, for example when a person is asleep in bed. Long periods spent in these zones would cause "devitalisation", which could in turn lead to a range of negative health outcomes, ranging from chronic fatigue to cancer. Neufert claimed that moving a bed would offer rapid relief, though he was doubtful of the efficacy of "so-called interference suppression equipment", which, he believed, could have a detrimental effect. At the same time, by declaring that the undesirable impact of GPZs did not take place in rooms whose proportions were determined by the Golden Mean, or in buildings designed on the basis of a circular or hexagonal floor plan, he was implicitly conceding that certain forms of architecture had a role to play. The introduction to building biology in *Bauentwurfslehre* then continues with a discussion of healthy and unhealthy materials and the potentially insidious effect of water pipes and insufficiently insulated electricity distribution and transformer stations.

Neufert's book, to be found in specialist libraries, might well have represented a key source of information regarding GPZs for a Czechoslovak readership, especially those drawn from the ranks of students of architecture, design and related technical disciplines, in whose works we find frequent reference to GPZs throughout the 1980s and into the 1990s.[64]

The incursion of GPZ into debates taking place in Czechoslovakia surrounding architecture and town planning was confirmed by the Olomouc-based architect and conservationist Zdeněk Gardavský,[65] at that time the chief research designer for the State Institute for the Reconstruction of Historic Cities and Buildings (Státní ústav pro rekonstrukci památkových měst a objektů – SÚRPMO) in Brno. In 1984, Gardavský wrote a report entitled *Problém geopatogenních zón jako architektonický a urbanistický fenomén* (The Problem of Geopathogenic Zones as an Architectural and Urban Phenomenon).[66] According to him, this topic was not one that either "the general public or specialists has much knowledge of". He warned of the creeping threat represented by geological anomalies and underground streams, as well as by what were known as the Hartmann and Curry lines. Drawing on foreign literature and his own research, Gardavský summarised his knowledge of the economic effect of GPZs on flora and fauna, and especially on humans. He also highlighted their effect on transport and production. He outlined possible methods for detecting such zones, including via "mentally controlled telesthesia", and reminded his readers of the difficulties associated with blocking against harmful effects. He drew on

64 Vojtěch BROŽA, *Přehrady: Celostátní vysokoškolská učebnice pro stavební fakulty*, Praha: SNTL 1987, p. 534; Petr BRUNECKÝ, *Interier – člověk a nábytek*, Brno: Mendelova zemědělská a lesnická univerzita 1995, p. 16; Jaroslav HORKÝ, *Tvorba a ochrana životního prostředí*, Praha: ČVUT 1991, p. 89; Lubor CHUNDELA, *Ergonomie: Cvičení. Určeno pro studenty fakulty strojní*, Praha: ČVUT 1989.

65 Ing. arch. dr. Zdeněk Gardavský (1923–2002) studied architecture and civil engineering at the Czech Technical University and history at Charles University. He was an outstanding art-history student and an assistant to Václav Richter at Palacký University Olomouc. At the Brno University of Technology, where he defended his dissertation, he specialised in the reconstruction of historical architecture, spatial planning and urban studies. He was long involved in research into and the restoration of monuments and collaborated with the Regional National Committee in Olomouc, Stavoprojekt, the Department of the Chief Architect of the City of Olomouc and with SÚRPMO Olomouc and SÚRPMO Brno. mt, "Za architektem Zdeňkem Gardavským", *Olomoucké listy*, vol. 2, no. 14, 14 May 2002, p. 15. He deployed dowsing while surveying the Helfštýn Castle.

66 GARDAVSKÝ, *Problém geopatogenních zón*, unpag.

the findings of the Olomouc physician Oldřich Juryšek, who, like von Pohl before him, had compiled statistics on cancer patients, the data from which he then projected onto a map of the city. What he discovered was that the disease affected people living in certain places significantly more often, these places being clearly visible within the urban, street and building structure.[67] Another investigation was carried out in 1982–1983 involving a collaboration between the Olomouc Centre of Clinical Oncology and the State Institute for the Reconstruction of Historic Cities and Buildings in Brno.

Both Juryšek and Gardavský presented their findings at the 5th International Psychotronic Conference in Bratislava in 1983. Juryšek used the occasion to set forth his "proposal for a statistical survey of the impact of geopathogenic zones on health", paying particular attention to specific diseases.[68] Gardavský followed up with a paper in which he combined data on cancer incidence in Olomouc and the location of patients' homes, with an explanation of local building development.[69] He reminded his audience that at the end of the 19th century, villas were often built in areas previously flooded as a consequence of the construction of fortifications in the mid-18th century. As an example of such a location, which tallied with Juryšek's findings, he cited the Letná district of Olomouc, which he described as an example of "an otherwise extraordinarily well designed district of villas and detached houses in respect of climate and town planning, located away from roads and their emissions, in an area of lush greenery". As he was swift to emphasise, this was not "a residential district where the occurrence of a disease could be attributed to social influences".[70]

According to Gardavský, the social and urban factors of the district in question played a less important role than the parameters of the subsoil, led, in this case, by the presence of groundwater. Regardless of how humans had intervened in the environment, something had intruded that was undetected and virtually undetectable, yet very physical. This dimension defied the modernist conception of space and planning, and thus resonated with the revaluation of these qualities taking place at the time. At the same time, GPZs could function as forms of empty space that could be deployed wherever needed as resistance to other, often more comprehensible features of the built environment and the various interests related to it. With hindsight one sees how GPZs were usually linked with places associated in the public perception with a physical, health and/or moral decline that could instead have been caused by the devastation wreaked by mining, the ruins of a depopulated borderland, or prefab housing estates and historic city centres subject to neglect. On the basis of Gardavský and Juryšek's findings, the Research Institute for Building and Architecture commissioned the State Institute for the Reconstruction of Historic Towns and Buildings in Olomouc to draw up a methodology for the detection of

67 Jiří V. MUSIL, "MUDr. Oldřich Juryšek jubiloval: K osmdesátinám vlastivědného pracovníka a onkologa", *Zprávy Vlastivědného muzea v Olomouci: Společenské vědy*, 2003, no. 286, pp. 79–84. In addition to Juryšek, Gardavský mentioned in his report the names of many other physicians who were interested in the implications for health of GPZs.

68 Oldřich JURYŠEK, "Geopatogenní zóny, jejich zjišťování, mapování a vliv na zdravotní stav", in: Zdeněk REJDÁK (ed.), *Praktické využitie psychotroniky: V. medzinárodná konferencia o psychotronike*, Bratislava: Dom techniky ČSVTS Bratislava 1983, pp. 123–124. Juryšek featured at the 3rd conference in Tokyo in 1977.

69 Zdeněk GARDAVSKÝ, "Technická problematika geopatogenních zón v Olomouci", in: REJDÁK (ed.), *Praktické využitie psychotroniky: 2. díl*, pp. 125–138.

70 GARDAVSKÝ, *Problém geopatogenních zón*, unpag.

GPZs in central urban zones. The practical application of this methodology took place under the aegis of the Research Institute for Building and Architecture (VÚVA) as part of the renewal of urban cores in Tábor and Rakovník.[71]

The geophysicist and experienced dowser Evžen Andres also participated in these surveys.[72] Andres, who had previously worked at Kahuda's psychoenergetic laboratory, combined mechanical measurements of different geophysical parameters of the subsoil with the dowsing-based detection of GPZs.[73] In both towns he inspected the construction sites of detached houses, a practice that spread in parallel with the more routine surveys of already completed buildings.[74] The wide acceptance of the technique is evidenced by the advice column of the newspaper *Rudé právo (Red Justice)*. On 23 January 1989, the newspaper printed a question sent in by a reader calling themselves "D. F." from Brandýsek, which asked whether a plot of land purchased by their son was suitable for the construction of a house, given that there was water located beneath it. The paper's response confirmed the usefulness of detecting GPZs:

> Experiments conducted in the laboratory and in situ [involving the application of telesthesia and the detection of terrestrial anomalies] have proven themselves to be remarkably useful in a wide variety of disciplines, especially in residential, agricultural and industrial construction projects, where a thorough knowledge of old mines, natural underground cavities, utility networks and former buildings, underground drainage, and other such details are indispensible for any builder or developer.[75]

If in doubt, readers were advised to contact a certain "psychoenergetic office" that was opened in Jirkov in 1988, since it "prioritises the provision of services where the needs of society as a whole and the population so require".[76]

The defence of cultural values and risk management

Risky GPZs were to be found not only above geological anomalies, but in the spaces left by missing "cultural values". Whence in 1988 a brief mention of them was made in the pages of *Zpravodaj VÚVA (VÚVA Newsletter)*, a supplement of the journal *Architektura ČSR*.[77] The architect Martin Peterka took the opportunity to mount a defence of

71 Zdeněk GARDAVSKÝ, "Principy a korelace jevů geopatogenních zón", in: Miroslav V. JOKL et al., *Geopatogenní zóny: Sborník referátů z konference*, Praha: Společnost pro techniku prostředí 1993, pp. 17–25. For more information regarding the revitalisation of Tábor and Rakovník, see *Výstavba a architektura*, vol. 35, 1989, no. 4.

72 Evžen ANDRES – Václav VOKOLEK, *Jak odhalit tajemství geopatogenních zón: Účinky geologického podloží na zdraví lidí*, Praha: Eminent 2002. Evžen ANDRES, "Geologické podloží – důležitý faktor životního prostředí", in: JOKL et al., *Geopatogenní zóny*, pp. 9–11.

73 ANDRES – VOKOLEK, *Jak odhalit tajemství*, p. 10.

74 Miroslav BOUŠKA – Oldřich MAZAČ, "Ověřování geopatogenní zóny na lokalitě Praha-Břevnov", in: collective, *Geopatogenní zóny. Sborník*, 1990, pp. 110–117. Zdeněk REJDÁK, *Průvodce po psychotronice*, Praha: Gemma 89 1991, pp. 63–66.

75 "Potřebujete poradit? Geopatogenní zóny", *Rudé právo*, 23 January 1989, p. 5.

76 *Ibid*.

77 Martin PETERKA, "Kulturní hodnoty v procesu přestavby a dostavby měst", *Architektura ČSR*, vol. 47, 1988, no. 2, pp. 88–93.

"cultural values in the process of the reconstruction and completion of towns and cities". He identified these values with a sensitive relationship to nature and the past in their capacity as externalities of the modernist project, i.e. to values that we might associate with "reflexive modernisation".[78] Peterka is convinced these values must be defended, since "people's lifestyles are to a large extent influenced, even predetermined, by the operational organisation of the city".[79] Citing Lynch, he declares it essential that we re-evaluate disorientating modernist zoning and avoid "the cultural damage of housing projects". In particular, he supported the construction of detached houses that would ensure "healthy lifestyles" that respected the "natural properties of the human organism" and guarantee that "buildings, above all the rooms that are inhabited, are impacted as little as possible by geopathogenic zones".[80] It is not entirely clear whether the brevity of this passing reference to GPZs reflects an assumption on the writer's part that his readership knew exactly what he was talking about, a reluctance to become dragged into a controversial topic, or its marginal status in respect of other problems. Nevertheless, the reference demonstrates how smoothly GPZs slotted into debates at that time regarding the built environment, even on the level of architectural expertise.

A remarkably similar defence of "culture" and "naturalness" was mounted by the engineer Vlastimil Žert, the former chief designer at the state enterprise Pozemní stavby Olomouc (Olomouc Civil Engineering Co.) and one of the most prolific promoters of GPZ in Czechoslovakia. In his *Kurs stavební biologie* (Course in Building Biology) of 1991 he warned against the adverse effects of "unnatural" materials, whether they be used in clothing or construction. According to Žert, with the expansion of technology and the concomitant changes to lifestyle, the metabolic relationship between people and their environment is disrupted:

> The process of alienation from nature and the loss of culture is intensified by large population densities in which the individual is anonymous and becomes simply a number. In this case progress is more a step backwards and mass production is in reality destruction. And so the sphere of construction and town planning is increasingly becoming divorced from its own mission, namely, to create the conditions that allow people to live a happy and healthy coexistence and to ensure both an external and internal harmony.[81]

It was for this reason that Žert thought of construction work and architecture, under the guidance of building biology, as "duty-bound and qualified to contribute to general psychosomatic healing". Achieving this aim in Czechoslovakia was, he believed, being held up due to fundamental obstacles, namely, "prefab technology and economic criteria".[82]

The environmental psychologist Michal Černoušek, who collaborated with Rejdák's Research Institute, was quite explicit in not wanting to prove that dowsing worked. However, he did attempt to use it (inter alia, referencing Lynch), to document the general

78 As it was being described at roughly the same time by Ulrich Beck and other sociologists.
79 PETERKA, "Kulturní hodnoty", p. 90.
80 *Ibid.*, p. 91.
81 Vlastimil ŽERT, "Úvod do stavební biologie", in: *Kurs stavební biologie: Sborník*, Uničov: Sdružený klub odborů 1991, p. 2.
82 *Ibid.*, p. 5.

mechanisms of the psychology of perception, and found in it a model for a new holistic and "authentic" approach to the world.[83] As he saw it, the work of dowsers did not differ hugely from that of geologists, since both "represent the same behaviour, but on a different level of cognition. The geologist controls various devices, the dowser only his rod. However, each case involves aids and devices that extend the human sensory apparatus." Nevertheless, it is clear from his description that he regards dowsers as defending a sense of oneness with the environment. Of this sense of oneness he writes:

> ... today it is gradually disappearing from industrial and technological society. The outcome is an alienated relationship between Man and his environment, since he views this environment in an objectified sense and places it before him as though it were an object of production processes or the subject of scientific knowledge. And yet he still comprises an indivisible unity with it.[84]

For this reason dowsers were in a position to offer an example to all those who perceived the land "as a world of readymade meanings acquired through upbringing and education and highly organised knowledge".[85] Černoušek felt there were lessons here for architecture too.

> [Architecture] has always taken into account the psychology of physical structures or colours. However, it is often the case that the user of architectural spaces is manoeuvred into a passive dependence on the environment created [...]. Only when architecture fully acknowledges the active role of Man in the environment will its existing shortcomings be revealed in the full light of day. Forms and functions will not dominate, and we might even abandon our preference for melancholic grey. The unintelligibility of buildings will decrease, though the spaces in which man finds meaning will increase.[86]

It seems that many architects took such challenges seriously, and some did not shrink from using a dowsing rod, as is clear from an article on GPZs published in October 1989 in *Technický magazín*, a journal devoted to architecture and town planning that featured a lively and relatively critical debate on the topic of housing estates.[87] As the introduction to the article entitled "O geoaktivních zónách" (On Geoactive Zones) by the architect Zdeněk Meisner noted, this piece was being published on the express wishes of the readership.[88] Like Gardavský, Meisner offered his opinion regarding the harmful effects of groundwater on the built environment. He argued that it was "difficult to

83 Michal ČERNOUŠEK, *Psychologie životního prostředí*, Praha: Horizont 1986, pp. 53–58.

84 *Ibid.*, p. 88.

85 *Ibid.*, p. 57.

86 *Ibid.*, p. 87.

87 As far back as 1983, an article had been published in *Technický magazín* devoted to dowsing, which mainly reported on the experiments of the Frenchman Yves Rocard during the 1960s, the success of which was later confirmed by Soviet geologists and American hydrologists. JK, "Virgule čili kouzelný proutek", *T 83: Technický magazín*, vol. 25, 1983, no. 3, pp. 44–49.

88 Zdeněk MEISNER, "O geoaktivních zónách", *T 89: Technický magazín*, vol. 31, 1989, no. 10, pp. 27–30.

overlook the increasing number of reports and research outcomes, which on the basis of highly accurate, scientific observations and measurements point to a link between the health of living organisms and the subsoil or the environment in general".[89] In addition to Juryšek's research in Olomouc, Meisner cited "repeated surveys of pig farms, poultry houses and especially cowsheds" undertaken by the University of Agriculture in Nitra as examples of the application of research into GPZs, along with measures taken in orchards by the livestock breeding and seed production company Sempra. He then shifted his gaze from considerations of the rural and urban environment to the residential sphere, and summarised established practice thus: "Apartments are the domain of dowsers (telesthetes, psychics, bio-operators), who proceed to move beds and 'suppress' the zones in the rooms."[90] Meisner was emphatic that this should not escape the attention of architects, and linked their personal responsibility with doubts he harboured regarding the organisation of the existing centralised and industrialised construction industry when he posed the following question:

> Does the architect have the time, energy and resources to get to know the place where he is to build? Does he have a secure enough position to model a strong future territory? [...] Another question, perhaps the most crucial, is whether the 'heavy' construction industry as it is at present is able to respond with sufficient flexibility to the natural requirements of housing.[91]

Meisner believed it was essential that consideration be paid to the user, and thus deemed "risk mitigation" a task to be shared by architects, town planners and doctors. He reinforced this point in the conclusion to his article, reiterating that "over time, greater attention must be paid to issues of health as they relate to architecture."[92]

Typically, the political dimension of space as shaped by architecture and town planning was not articulated primarily in terms of aesthetics, but more in terms of health and an increasing awareness of the harmful effects of pollution. At the same time, as far as psychological theories were concerned, lived experience and a neurosis-inducing environment were inextricably intertwined. Inasmuch as a key role of the modern state was to mitigate risk, i.e. to exert control over unpredictability,[93] then the inflexible, centrally controlled construction industry was eloquent proof that late socialist Czechoslovakia had failed in its duty. On the one hand, for architects this represented an opportunity to acquire higher social status along with their new responsibilities, while on the other, ordinary citizens could now turn to experts in GPZ, albeit with differing outcomes. The inadequately performed "an-aesthetic" function of architecture, along with dissatisfaction with the state of the environment, could then be sublimated in the form of GPZ, while criticism of technology oscillated between a hazy humanism and a paradoxical technocratism.[94]

89 *Ibid.*, p. 27.
90 *Ibid.*, p. 30.
91 *Ibid.*, p. 29.
92 *Ibid.*, p. 30.
93 Ulrich BECK, *Riziková společnost: Na cestě k jiné moderně*, Praha: Sociologické nakladatelství 2004.
94 *Ibid.*, pp. 31–34.

Hospitals, housing estates, cowsheds, mines and motorways

The oft repeated and somewhat empty call for the "humanisation" of architecture shifted attention over to the health aspects of the built environment. This in turn saw the expansion of a medical concept of space beyond specialised healthcare facilities and into the sphere of work and housing. Inasmuch as the sanatorium represented the typological template of modernist architecture,[95] the growing emphasis on prevention confirmed the medical logic of construction not only metaphorically, but also metonymically. It was in this sense that the philosopher Sven-Olov Wallenstein, drawing on the work of Michel Foucault, deemed the hospital to be a paradigmatic space of modernity, a "biopolitical machine" and a model of the medicalisation of the built environment that extends far beyond the hospital walls.[96] This extension was made explicit in the debate surrounding GPZ, as evidenced by the book *Člověk a patogenní zóny* (Man and Pathogenic Zones), published in 1991 by the Slovak naturalist Anna Reháková. According to Reháková, GPZ surveys had been carried out even prior to the construction of certain medical facilities. She offered as an example plans for a hospital drawn up in 1981, in which the architects had heeded the recommendations of employees of the Psychoenergetic Laboratory and had positioned corridors, storerooms and other technical spaces in places with negative zones, above all "ensuring that operating theatres and wards were as unaffected as possible".[97] Reháková was quick to point out that such considerations "are far more difficult to respect when building vast housing estates", inadvertently revealing just how far the dimension of health had spread beyond the boundaries of healthcare facilities.

The right to a healthy environment, i.e. one that was not injurious to and might even be conducive to health, proved to be a fundamental requirement of citizens qua residents of the Czechoslovak Socialist Republic. When this requirement was met, the power of the state was reinforced: when not, its legitimacy was undermined.[98] Housing developments as the most striking product of the construction industry, represented the framework wherein GPZs were perhaps most often manifest, both on a discursive and practical level. The parameters of this criticism were derived from the discipline of medicine, be this modern or alternative/traditional,[99] and only indirectly related to aesthetic and social concerns. In many respects, this criticism coincided with the many professional and lay voices gaining in volume during the 1980s, while at the same time possessing some very

95 Paul OVERY, *Light, Air and Openness: Modern Architecture Between the Wars*, London: Thames & Hudson 2007, pp. 21–43.

96 Sven-Olov WALLENSTEIN, *Biopolitics and the Emergence of Modern Architecture*, New York: Princeton Architectural Press 2009.

97 Anna REHÁKOVÁ, *Člověk a geopatogenní zóny*, Praha: DUHA 1991, p. 17.

98 VANĚK, *Nedalo se tady dýchat*.

99 Ivan SOUČEK, "Medical Pluralism During and After Socialism", *Český lid*, vol. 107, 2020, no. 1, pp. 51–69.

distinct accents.[100] The concentration of residential units situated in housing estates of eye-watering uniformity, which, unlike traditionally scattered and diverse buildings, limited the possibility of avoiding the negative effects of GPZs, was deemed an unfortunate feature of contemporary developments.[101] The height of new buildings was thought to play a similarly negative role, since many believed that the influence of terrestrial radiation increased the greater the distance from the ground.[102] A lot of attention was paid to the properties of different materials in relation to prefab apartment blocks and GPZs. In line with the precepts of building biology, most GPZ experts preferred "natural" materials to "artificial" ones, though the emphasis oscillated between their physical and psychological effects. In his report of 1984, Gardavský wrote:

> Organisms are adapted to normal levels of radiation. However, they react unfavourably to changes, especially in an enclosed space, and even more unfavourably in buildings using reinforced concrete, concrete and iron structures, and artificial substances, i.e. in building with no natural counter-regulation. These adverse effects are further amplified by the static charges of artificial building materials and clothing, vibrations from oil burners, television antennas, overhead electricity cables, standpipes, transformer stations, transmission and jamming stations, TV and other towers, the erratic currents of electrical railway lines, lightening conductors on towers, and other technical phenomena of contemporary civilisation.[103]

The attention paid in connection with GPZs to prefab apartment blocks and their fittings slots neatly into the logic applied to other objects of telesthetic interest. In a strange echo of Vitruvius's guidelines, according to which a suitable site for construction purposes can be determined by means of bovine sacrifice, a connection between cattle, Hippocratic medicine, divination and construction was also made in socialist Czechoslovakia.[104] GPZ surveys beneath agricultural buildings, especially cowsheds, were undertaken during the 1980s in the Beroun and Olomouc regions and in a number of places in Slovakia. The results were first unveiled to the public at the Agrokomplex

100 Viz Hubert GUZIK, "Spolia", in: Hubert GUZIK – Dita DVOŘÁKOVÁ – Jan ZIKMUND, *Architektura v přerodu*, Praha: České vysoké učení technické v Praze 2019, pp. 166–203; Maroš KRIVÝ, "Greyness and Colour Desires: The Chromatic Politics of the Panelák in Late-Socialist and Post-Socialist Czechoslovakia", *The Journal of Architecture,* vol. 20, 2015, no. 5, pp. 765–802; Rostislav ŠVÁCHA, "Stará města, panelová sídliště a denní tisk, 1960–1989", *Zprávy památkové péče*, vol. 75, 2015, no. 4, pp. 350–353, cit. p. 350; Rostislav ŠVÁCHA, "Amatérská interpretace architektury: Solitéry a sídliště v českém denním tisku, 1868–1989", *Architektúra & urbanizmus*, vol. 49, 2015, nos. 1–2, pp. 6–25.

101 GARDAVSKÝ, *Problém geopatogenních zón*, unpag.

102 E.g. Václav NEČAS, *Patogenní zóny – jejich vliv na zdraví člověka*, Brno: Agentura Milton, 1990, p. 6.

103 GARDAVSKÝ, *Problém geopatogenních zón*, unpag.

104 VITRUVIUS, *Deset knih o architektuře*, Praha: Státní nakladatelství krásné literatury, hudby a umění 1953, p. 20. GPZ detectors were prone to refer to Vitruvius.

Nitra exhibition in 1983.[105] The services of dowsers were also called upon in the case of mines. In the surface mines of the North Bohemian brown coal basin they searched mainly for cavities left by the underground mining that represented a threat to expensive excavators.[106] One of those operating in the Ostrava region was the coalmine doctor Josef Smola, who used a rod to track down places at threat of landslide, gas leakage and other such risks. With the aid of a pendulum and map, he also scouted for such places remotely, as described in his book *Jev virgule* (The Phenomenon of the Dowsing Rod) of 1989.[107] GPZs were also deemed responsible for several traffic accidents. In 1992, a car accident took place on the D1 motorway that resulted in the death of Alexander Dubček. The subsequent police investigation took heed of a report according to which Dubček's chauffeur was a psychic who lost control of the car due to the effect of GPZs.[108] Though these claims were not officially confirmed, traffic accident blackspots continued to be associated with GPZs.

GPZs were thus seen as being manifest in the built environment, a sphere dominated by standardisation, typification and industrialisation, procedures deemed to have played no small part in the dismal condition of both the old and new parts of towns and cities and the pollution of the surrounding environment. At the same time these procedures seemed essentially unconscious, a phenomenon associated with the home, yet strangely eluding the home. In this way they literally conformed to the concept of *Unheimliche* or the uncanny in the sense that Freud uses the term.[109] Indeed, the term became popular in American architectural theory in the early 1990s. It was then that Anthony Vidler coined the phrase "architectural *Unheimliche*" as a metaphor for the intolerable modern situation in elite architectural production, in which once romantic stories about haunted houses break free of the bourgeois *Heimlichkeit* and the anthropomorphism of classical architecture.[110] However, GPZs have a closer connection to "infrastructural *Unheimliche*", the term used by the media theorist Bernard Dionysius Geoghegan to describe modern communication technologies, including railways, telegraphs and canals, as well as household utilities and laboratory classification systems and equipment.[111] Geoghegan points out that in period literature above all these technologies were accompanied by numerous legends involving strange disruptions to domestic routines and the feeling that everyday life

105 These surveys took place in cooperation with SÚRPMO Brno, Rejdák's psychotronic laboratory and regional veterinary and health organisations in Olomouc. GARDAVSKÝ, *Problém geopatogenních zón*, unpag. Cf. Oldřich JURYŠEK – Andrej SÁNDOR – Jaroslav STOCKMANN – Vladimír ŽERT, *Zdravé bydlení: Česko-slovenské feng-šuej I.*, Olomouc: Fontána 2000, pp. 267–269.

106 Jindřich FOREJT, "Telestézické experimenty a jejich využití v národním hospodářství", in: František KAHUDA, *Fundamentální záření hmot. Závěrečná výzkumná zpráva k výzkumnému úkolu ČVUT–R–004 Mentální energie a její využití v praxi*, Praha: ČVUT 1980, unpag.

107 Josef SMOLA, *Jev virgule*, Jirkov: IZA Jirkov 1989.

108 "A. Dubček nebude mít státní pohřeb", *Rudé právo*, 10 November 1992, p. 1–2. Monika KUNCOVÁ, "Psychotronik patogenní zónu na místě havárie A. Dubčeka nepotvrdil", *Rudé právo*, 17 December 1992, p. 6. "Řidič není senzibil", *Lidové noviny*, 26 January 1993, p. 2. Cf. Eva PUKLOVÁ – Anna REHÁKOVÁ, "Tajemné autonehody", *Rudé právo*, 2 April 1992, p. 10.

109 Sigmund FREUD, "Něco tísnivého", in: *Spisy z let 1917–1920*, Praha: Psychoanalytické nakladatelství 2003, pp. 173–204.

110 Anthony VIDLER, *The Architectural Uncanny: Essays in Modern Unhomely*, Cambridge, MA: MIT Press 1992.

111 Bernard Dionysius GEOGHEGAN, "Mind the Gap: Spiritualism and the Infrastructural Uncanny", *Critical Inquiry*, vol. 42, Summer 2016, pp. 899–922.

is controlled by remote forces, or the undermining of the opposition between distance and proximity. Though such phenomena are

> often attributed to a collapse in time and space resulting from modern communications, these experiences more accurately mirror the failure of these promises. They appear where an infrastructure only partially fulfils the promise of smooth and continuous transitions among heterogeneous parts and sites. [112]

The search for GPZs in cowsheds, mines and on motorways reflects an emphasis on productivity and efficiency, as well as a certain inherent crisis of such a pragmatic approach. [113] A similar shift can be traced in the sphere of architecture and town planning, which was consolidated by various infrastructural technologies associated with the industrialisation of construction and the construction of prefab housing estates. [114] The importance of infrastructure increased in direct proportion to the expansion of cities and the growing demand for housing. The notoriously low quality of construction work and the need for repeated maintenance in the case of prefab buildings disrupted the flow of operations, and could thus assist in the materialisation of *unheimlich* phenomena. In the Czechoslovak Socialist Republic too, theorists deployed semiotics to describe the communicative functions of buildings and environment, and thus viewed architecture as a type of communication technology. [115] Their call for architecture to convey relevance and create "meaningful" places remained largely unanswered. [116] A reassessment of the "engineering" logic of modern construction was unable to deal adequately with the infrastructural technologies that buildings cannot be without, but which resist symbolisation and sublimation. [117] In this respect, the events surrounding GPZ can be seen as a particular type of adaptation strategy that in the spirit of the psychotronic "science-human revolution" complemented the official programme of the scientific technological revolution and in which newly developed human abilities were to counterbalance technology, but without the latter's "alienating" effects. [118] Despite its ideological inconsistency, in many ways this strategy came close to the sociological and philosophical criticism of architectural and urban modernity in respect of the way it denounced the "inhospitality" of modern cities. [119]

112 *Ibid.*, p. 900.

113 Starting in the 1990s, Andrej Sándor, the leading Slovak specialist in psychotronics, neutralised GPZs in manufacturing companies, oil refineries and financial institutions. JURYŠEK – SÁNDOR – STOCKMANN – ŽERT, *Zdravé bydlení*, pp. 281–290.

114 In this respect, the short story by Martin Hanka entitled *Panelák*, which tells of an expert in GPZ who is called to a prefab building in the Jižní Město district of Prague, offers a remarkable illustration of the "infrastructural *Unheimlich*" in Czechoslovakia in the late 1980s. Martin HANKA, "Panelák", *Květy*, 1989, no. 39, pp. 36–37.

115 Jiřina LOUDOVÁ, "Příspěvek k analýze sémantické funkce architektury", *Estetika*, 1970, no. 4, pp. 271–292; Jiřina LOUDOVÁ "Sémiotika a architektura", *Architektura ČSR*, 1973, no. 3, pp. 149–150.

116 Cf. Maroš KRIVÝ, "Quality of Life or Life-in-Truth? A Late-Socialist Critique of Housing Estates in Czechoslovakia", in: Ákos MORAVÁNSZKY – Torsten LANGE (eds.), *Re-Framing Identities: Architecture's Turn to History, 1970–1990*, Basel: Birkhäuser 2017, pp. 303–318.

117 Fredric JAMESON, *The Seeds of Time*, New York: Columbia University Press 1994, pp. 57–58.

118 Karel DRBAL – Zdeněk REJDÁK (eds.), *Perspektivy telepatie*, Praha: Melantrich 1970, p. 9.

119 Cf. Alexander MITSCHERLICH, *Nehostinnosť miest, pobádanie k nepokoju*, Bratislava: Pallas 1971.

Self-realisation and other realisations

In many respects the antithesis of prefab, standardised housing estates was represented by increasingly acceptable detached houses, along with weekend cottages and cabins. Although these "second homes", as such cottages were sometimes referred to, were inevitably subject to a degree of red tape, they nevertheless offered their occupants far greater choice in respect of fittings and furnishing than centrally controlled apartment blocks. While many architects criticised the devastating effects of mass recreation, the "cottage mania" supported by the regime fulfilled the normalisation ideal of a "life in peace".[120] It was weekend cottages that became the welcome venues for individual self-realisation, something that normalisation had already banished to the private sphere and into which the interests of amateur dowsers and parapsychologists also fell. It is hardly surprising then that at the turn of the 1980s and 1990s, the debate on GPZ found its way into the pages of the journal *Chatař* (Cottager), where proponents of dowsing clashed with sceptics in a number of instructional and theoretical articles.[121] In its editorials, the journal recommended that dowsing for GPZs be viewed as an harmless pastime, and after several exchanges in 1991, the editors declared that the response given by Věnceslav Patrovský to the sceptics Luděk Pekárek and Milan Rojko marked the point at which the "polemical discussion on dowsing taking place in *Chatař* will be brought to a definitive end". They also assured their readership that in the future they would "deal only with the utilisation and experience of such phenomena in practice".[122] In an endeavour to seek reconciliation, the journal set aside questions regarding the actual existence or otherwise of GPZs, though in a sense it acknowledged their existence when it gestured vaguely toward the practical applicability of the practice.

This recognition of subjective experience and the concomitant prioritising of active practice over passive theory created a framework in which objections based on scepticism missed their target, thus unwittingly revealing the limits of expertise. In response to the growing popularity of dowsing, sceptics drawn from the ranks of physicists and popularisers of science drew attention to methodologically questionable experiments, to the methods of persuasion being deployed to promote the whole topic of GPZs, and to the possible dangers that might arise from misleading ideas, notably the commercialisation and marginalisation of modern medicine.[123] In addition to the ambiguities

120 Paulina BREN, "Weekend Getaways: The *Chata*, the *Tramp* and the Politics of Private Life in Post-1968 Czechoslovakia", in: CROWLEY – REID (eds.), *Socialist Spaces*, pp. 123–140; Petra SCHINDLER-WISTEN, *O chalupách a lidech: Chalupářství v českých zemích v období tzv. normalizace a transformace*, Praha: Karolinum 2017.

121 Václav PATROVSKÝ, "Hledáme vodu a škodlivé zóny", *Chatař*, 1988, 12, p. 282; Miroslav BOUŠKA, "Hydrogeologie, geoanomální zóny a člověk", *Chatař*, 1989, no. 7, pp. 6–7. Antonín LOULA, "Stavební biologie, geoanomální zóny a člověk", *Chatař*, 1989, no. 8, pp. 18–19. Jiří TRNAVSKÝ, "Jak se hledají zóny", *Chatař*, 1989, no. 9, pp. 12–13. Věroslav PATROVSKÝ, "Chcete být proutkařem?", *Chatař*, 1989, no. 10, pp. 18–19. Luděk PEKÁREK – Milan ROJKO, "Proutkaření méně optimisticky", *Chatař*, 1989, no. 12, pp. 16–17; Jiří TRNAVSKÝ, "Lze jim věřit?", *Chatař*, 1990, no. 12, p. 3. Věnceslav PATROVSKÝ, "Lze jim věřit?", *Chatař*, 1991, no. 3, p. 7. PATROVSKÝ, "Co je to stavební geobiologie", *Chatař*, 1992, no. 3, p. 7.

122 PATROVSKÝ, "Lze jim věřit?", p. 7.

123 Zdeněk KUKAL – Jaroslav MALINA, *Soumrak kouzelníků*, Praha: Horizont 1987. Some of the essays in the *Věda kontra iracionalita* (Science contra Irrationality) anthologies published by the Sysifos association of sceptics from 1998 onwards dealt with questions surrounding dowsing and the supposedly harmful effects of different forms of radiation.

surrounding the physical character of "earth radiation", scientific sceptics were particularly critical of the dowsing method. The near (though not quite) unanimous consensus surrounding the ideomotoric origin of the dowsing rod did not offer an all-encompassing solution because it did not explain what the dowser was actually reacting to.[124] The location of the boundary between science and pseudoscience was only gradually pinpointed, and not recognised as definitive by anyone other than the circle of sceptics. Prior to 1989, and subsequently to a greater extent, many of those who were in no doubt as to the existence of GPZs became increasingly concerned by the growing number of dubious "operators" and the poor quality and legitimacy of dowsing courses. They conceded the possibility of inaccuracies ensuing from the subjective approach, but insisted that the practical outcomes in the form of the measurements provided by dowsing were accurate, and pointed to its economic benefits. While some of its adherents attempted a scientific explanation, others distanced themselves from "academic" debates and emphasised the primacy of practice.

That specialist and laic interests failed to find common ground on which to meet was confirmed by the anonymous author of the preface to the manual *Radiestezie v domě a na zahradě: Učebnice proutkařství* (Radiesthesia in the Home and the Garden: A Divination Textbook) by Czesław Spychalski, published in Czech in 1993, who wrote that "[t]heoretical matters are dealt with [in the book] only tangentially", since "academic disputes and discussions regarding, for instance, the physical characteristics of the radiation of groundwater […] are of no consequence for radionic work".[125] Similar sentiments were expressed by Břetislav Nový in his *Patogenní zóny a proutkaření* of 1991, to wit, that GPZs "arise from natural causes and are a small part of pathogenic zones as we generally understand them, because for us their reality is more important than their origin".[126] As for practices associated with GPZ, the objectivity of scientific knowledge was not a key criterion, a point made eloquently by the power engineer Václav Nečas in 1990, when he wrote that "the genuine effect of negative zones" is accentuated with the experience acquired.[127] This "genuine effect" is thus not subject to scientific evaluation, on which it no longer depends, but is the outcome of lived experience and the pragmatic needs of those being treated and those providing the treatment.

Moreover, the vagueness of the claims made by certain sceptics was not so far from that of their pseudoscientific counterparts. They seemed especially keen to offer a monocausal explanation of mysterious phenomena and to issue de-contextualised, biased judgements.[128] This was especially so in the case of the leading German sceptic, the forensic scientist Otto Prokop, several of whose texts were translated into Czech.[129] More sophisticated variants on the sceptical theme took into account the social context and

124 Emil KAŠPAR, *Populárně a vědecky o proutkaření*, Praha: Jednota českých matematiků a fyziků 1994. Michal ČERNOUŠEK, *Historie a psychologie fenoménu biolokace*, Praha: Vysoká škola chemicko-technologická 1989.

125 Czesław SPYCHALSKI, *Radiestezie v domě a na zahradě: Učebnice proutkařství*, Pelhřimov: Stanovum 1993, p. 3.

126 Břetislav NOVÝ, *Patogenní zóny a proutkaření*, Pardubice: Delta 1991, p. 14.

127 NEČAS, *Patogenní* zóny, p. 11.

128 Monica BLACK, "Witchdoctors Drive Sports Cars, Science Takes the Bus: An Anti-Superstition Alliance Across a Divided Germany", in: Paul BETTS – Stephen A. SMITH (eds.), *Science, Religion and Communism in Cold War Europe*, London: Palgrave Macmillan 2016, pp. 157–175

129 Otto PROKOP et al., *Lékařské vědy proti pověrám a šarlatánství*, Praha: Avicenum 1984.

psychological mechanisms such as autosuggestion and psychosomaticism, though rarely displayed much in the way of empathy. According to Pekárek and Rojek, "from everything that is known about dowsing and geopathogenic zones it clearly ensues that searching for such zones using a rod is a completely irrational activity that has nothing in common with science".[130] Nevertheless, both physicians acknowledged the possible negative influence of the environment, including such environments associated with inappropriate construction technologies, and recognised the possibility of the suggestive effect of GPZs, especially on neurological patients. And so in 1991 they wrote:

> At present, neurological difficulties are in third place as regards the frequency of health problems in our citizens. It would appear that some share in this is down to what was a far from ideal political system, the consequences of which few people managed to avoid. However, the specific causes of neurological and psychological problems are sometimes extremely difficult to detect, partly because our healthcare system is generally in a poor condition and offers psychotherapy only rarely.[131]

In claiming that the political situation can lead to neurosis, sceptics were conceding that politics could be potentially pathological. Those who advocated searching for and shielding against GPZs, on the other hand, urged that pathology be recognised as a political problem, and as such worthy of the interest of the public administration.

Blanket suppression and making death beds

Notwithstanding its relatively limited strategic potential, GPZ also aroused interest in military circles, as evidenced by the activities of one Lieutenant Colonel Václav Morávek, head of the "psychotronics research circle" at the Military Technology University (Vysoká vojenská technická škola) in Liptovský Mikuláš (now the Armed Forces Academy). Morávek also appeared in the documentary *Něco z psychotroniky* (Something from Psychotronics) (1990), directed by Viliam Poltikovič and produced by Czechoslovak Military Film. Morávek gave a theoretical introduction to the issue and sketched out some practical applications. When speaking of the significant health and economic impacts, he demonstrated the possibility of "blanket screening" against the negative effects of GPZ on housing estates and agricultural land, for instance by passing "shape emitters" over a map of the areas affected.[132]

However, unlike measures relating to other, physically measurable and explicable environmental factors, it is unlikely that such actions were ever taken, no doubt in light of the controversial character of GPZ. State support for psychotronic research dried up soon after 1989 and laboratories were forced to move out of academic premises. Hopes for scientific recognition were dealt a heavy blow. Even then, however, the interest in psychotronics and certain of its procedures persisted under new conditions. Routine practice did not undergo any great changes and the detection of GPZs and the "neutralisation" of their

130 PEKÁREK – ROJKO, "Geopatogenní zóny a fyzika", p. 34.

131 *Ibid*.

132 Vladimír MORÁVEK, "Biolokace tvarových těles", in: *Výzkum a praktické využití biolokace*, Praha: ČSVTS 1987, pp. 85–96.

impact increasingly became a private, domestic affair, one element in an entire system of caring for oneself, one's loved ones, and one's immediate environment.[133]

The expulsion of GPZs from the political to the technical sphere allowed them to be recognised as an ergonomic problem, as in fact is already clear within the context of Neufert's interpretation of building biology. Ergonomics looks at the relationship between human bodies and the technical environment and was one of the favoured topics of theories of design and architecture in the Eastern bloc as a tool for the rationalisation and streamlining of operations in the 1970s and 1980s.[134] Like ecology and psychotronics, it was a systemic approach that held out the promise of identifying and overseeing relationships between people and the environment. As a means of mitigating the negative effects of technology, ergonomics was an important tool of "an-aesthetic" modern architecture. The ergonomics of GPZ is to be seen in several sketches in which Zdeněk Gardavský depicted the situation in the homes and workplaces of Olomouc. On a small-scale map of some of the streets of the Letná district, Gardavský traces the ground plan of a doctor's clinic, highlighting the chairs where the doctor and his nurses sat (i.e. the places they are most often to be found in) and several floor plans of bedrooms showing the location of the beds and persons lying on them.[135] All of these plans also show the layout of GPZs, differentiating them graphically depending on their alleged causes. When creating these drawings Gardavský drew on the example of German building-biological publications held at SÚRMPO Brno and presented them as a template for the methodological drawing of GPZs.[136]

Gardavský's drawings represented a kind of ergonomics of sleep. As Meisner wrote in *Technický magazín*, when searching for GPZs most attention was paid to sleeping areas, not only because people tended to spend the longest periods in these places, but also because "the sleeping organism has many of its defence mechanisms blocked".[137] Sleep thus acquired a special significance. An oft repeated recommendation was to monitor where pets chose to sleep, since they either looked for places impacted by GPZs (like cats) or avoided them (like dogs). Likewise, monitoring the movements of restlessly sleeping children, who were thought to be trying to distance themself from harmful zones in their beds, was considered to be revealing.[138] For this reason the schematic figures in Gardavský's drawings are not involved in particular tasks, as was usually the case in ergonomic diagrams. Instead, as motionless, prone bodies, they are passively at the mercy of the environment. They are thus both "the measure and the goal" (*Mass und Ziel*), as the subtitle of Neufert's book puts it, albeit in a somewhat modified sense. Man appears here as a measure with limited capacity. He is more a "target" exposed to external threats than

133 GARDAVSKÝ, "Problém geopatogenních zón", unpag.

134 See, for example, "Účast IPD při řešení dohody RVHP o ergonomii", *Design v teorii a praxi*, 1976, no. 2, p. 7.

135 GARDAVSKÝ, "Technická problematika", pp. 125–145.

136 "As part of my work plan, instructions were drawn up for systematic procedures, graphic designs of records in various scales for the land, block, street, building, apartment, room and bed of a sick person and the modification of this design by differentiating different types of zone." GARDAVSKÝ, *Problém geopatogenních zón*, unpag.

137 MEISNER, "O geoaktivních zónách", p. 27.

138 J. KOTLEBA, *Vplyv slabých magnetických polí na vybrané biofysikální procesy*, dissertation, Stavební fakulta SVŠT, Bratislava 1979. Cited by Vlastimil ŽERT, "Kontakt člověka s fyzikálním životním prostředím", in: REJDÁK (ed.), *Praktické využitie psychotroniky: 1. díl*, pp. 189–194.

a "purpose".[139] The interface between Man and the immortalised environment cannot be unambiguously determined, since it permeates both space and the human body. Descriptions citing initials, gender, age and state of health correspond to individual characters in the key. Unlike Neufert's abstract, idealised figures presented within a geographically nondescript environment, Gardavský's figures, albeit partially anonymised, are individual and specific. They embody the statistical information processed by Juryšek and demand the identification and rectification of the environmental causes of their often fatal diseases. The sleepers or patients drawn represent specific political subjects characterised above all by a certain helplessness and suffering that they must overcome. And yet they do not have the "special needs" that were already beginning to be included in building design in Czechoslovakia at that time. Henceforth, anyone who decides to resist environmental influences off their own bat will be able to identify with the drawn characters. It was GPZs that opened up this possibility.

In a sense, beds became the focus of debates around GPZs.[140] During the 1980s and 1990s, changing the position of beds was a relatively common practice by which anxious residents sought to mitigate the negative influences of the environment. Beds also represent the attributes of the "life lived in peace" of the normalisation period, that which the historian Paulina Bren calls the "privatisation of citizenship". According to her, this "turn toward the domestic, played out in different configurations at home and at work… was not merely a return to private life but also an expression of the quiet life endorsed by the state as a cornerstone of party policy and normalisation's political culture".[141] According to Bren "[T]he official, state-endorsed shift toward family and the unofficial, private shift toward home life played off each other, at times making it difficult to ascertain where official ideology ended and private protest began."[142] Henceforth, disagreements were to take place on the level of private, individual self-realisation, which took place in the home. Inasmuch as a suitable therapy had to be found to treat the reform "fever" of the Prague Spring,[143] this should take place at home, or in a weekend cottage, or, as a temporary makeshift solution, at work. In addition to the promise of sufficient consumer goods and social security,[144] the normalisation period also offered guarantees of peace,[145] stabil-

139 HARWOOD, "The Interface".

140 Jana HÁKOVÁ – Dagmar MORENOVÁ, "Tu postel kousek doleva", *Květy*, 1995, no. 14, pp. 4–6. Josef FLEISSIG – Milan ROJKO, "Patogenní zóny aneb otočte si postel", in: Josef FLEISSIG, *Záhady a podvody*, Praha: Bohemia 1995, pp. 80–82. Ivana ČAPKOVÁ, "Zdraví a poloha lůžka", *Domov*, 1997, no. 8, pp. 16–17. In Bavaria, references were being made in the relevant literature to "carcinogenic beds" as far back as the 1920s and 1930s. "Die Krebsbetten von Vilsbiburg", *Süddeutsche Sonntagspost*, 25 May 1930, p. 4.

141 Paulina BREN, *The Greengrocer and His TV: The Culture of Communism after the 1968 Prague Spring*, Cornell University Press 2010, p. 173. Parallel developments can be observed at the same time West of the Iron Curtain. Cf. Jan MERVART, "Rozdílnost pohledů na československou normalizaci", in: Kamil ČINÁTL – Jan MERVART – Jaroslav NAJBERT (eds.), *Podoby československé normalizace: Dějiny v diskuzi*, Praha: Ústav pro studium totalitních režimů – Nakladatelství Lidové noviny 2017, pp. 61–65.

142 BREN, *The Greengrocer and His TV*, p. 173.

143 The ideology of normalisation as a "discourse of sickness and healing" and its medical metaphors is dealt with by Kamil ČINÁTL, "Jazyk normalizační moci", in: Petr A. BÍLEK – Blanka ČINÁTLOVÁ (eds.), *Tesilová kavalérie. Popkulturní obrazy normalizace*, Příbram: Pistorius & Olšanská 2010, pp. 28–42, cit. pp. 39–40.

144 Lenka KALINOVÁ, *Konec nadějím a nová očekávání: K dějinám české společnosti*, Praha: Academia 2012, p. 375.

145 Petr REZEK, "Život disidentův jako 'život v pravdě'", in: týž, *Filosofie a politika kýče*, Praha: Institut pro středoevropskou kulturu a politiku – Richter 1991, pp. 45–62.

ity,[146] as well as *pohoda*, a word indicating a state of well-being, contentment, the good life, a concept that repeatedly found its way even into architectural journals.[147] The ideal of a good environment as a means of educating socialist man could, in this case, assist the de-politicisation of social conflict that was part of the normalisation process, while at the same time underpinning the legitimacy of the state apparat. However, as so often in the case of double-edged instruments of legitimacy, an inability to meet this ideal could be turned back on the apparat.[148] The emphasis placed on individualised self-realisation thus represented a degree of continuity between pre- and post-revolutionary life. The repositioning of beds could also be viewed as an expression of defiance against the bleak conditions of the environment, albeit only its private, depoliticised variant that, when all is said and done, is difficult to distinguish from conformist adaptation.

Scepticism of scepticism

While the gradual semantic broadening of the concept of GPZ may have contributed to its popularity, it also weakened its scientific credibility and most probably its political claim, directed primarily at mandatory compliance with health and safety provisions applying to new construction projects. Both individual and institutional stakeholders attempted to varying degrees to enforce special interests and legal regulations. Gardavský referred to the unsuccessful efforts of the South Moravian Regional National Committee, which in the 1980s advocated the introduction of appropriate building rules and regulations, but fell foul of red tape in the form of "administrative resistance".[149] Similar claims intensified with the *restructuring* that took place in the late 1980s and the new social conditions in the wake of the events of 1989. Certain demands seemed to indicate that it was impossible to separate completely scientific from political issues. In his publication on GPZ of 1990, Václav Nečas wrote:

> It will be necessary to overcome the barrier created by ignorance of the issue and include as a matter of urgency the complex of relationships between the geo-anomalous field and living matter in official research. [...] As regards planning permission, new housing developments must be situated within spaces distinguished by the optimal composition of the geo-anomalous field.[150]

Nečas anticipated that measures would be taken with the same urgency in medical facilities and at workplaces. It is not easy to find concrete instances of negotiations regarding construction projects in which GPZs played a role. One example, however, is the participation of psychotronic researchers from Rejdák's laboratory in preventing the

146 PULLMANN, *Konec experimentu*.

147 Perhaps echoing the definition of health given by the World Health Organisation in 1948, according to which health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity".

148 Alexej JURČAK, *Bylo to na věčné časy, dokud to neskončilo*, Praha: Karolinum 2018, pp. 23–27.

149 GARDAVSKÝ, "Principy a korelace jevů geopatogenních zón", p. 18.

150 NEČAS, *Patogenní zóny*, p. 16.

construction of a rendering plant in Trní, for which the chairman of the local National Committee thanked the rector of the University of Chemistry and Technology, Prague, in a letter.[151]

In addition to legal measures, some people demanded variously defined professional guarantees. In her text of 1991 already referred to, Reháková insisted that telestetic operations be delineated by expert authority, albeit only vaguely specified as a "genuinely renowned dowser".[152] She drew attention to the possible health risks of inexperienced dowsing and to what she saw as the ensuing cost of a well implemented survey. She included dowsing within the domain of psychotronics, which she described as a "little known field of science that examines the relationships between living organisms and their surrounding environment and the associated manifestations of energy and information".[153] According to Reháková, psychotronic research should be viewed "within a broader context, so that not only the individual has the right to their thoughts, but all those who have knowledge in this sphere and are interested in psychotronic problems are democratically allowed to think and work".[154] This "democratising" tendency was in tune both with the general demands of post-Velvet Revolution society, and with worldwide developments in parapsychological research, which since the 1970s had stopped focusing on exceptionally "sensitive" individuals, but worked as far as possible with randomly selected people on the basis that potentially everyone has parapsychological abilities.[155] The status of expert in the sphere of GPZ, as in the sphere of psychotronics, was reinforced by, though not conditional upon, scientific expertise or academic qualifications. During the course of the 1980s and increasingly post-revolution, their authority relied more on "entrepreneurial" achievement than on research work, however useful a part might be played by an expertise in scientific, civil engineering or architectural matters in specific projects.

Increased interest in paranormal phenomena was conspicuous with the onset of the "reconstruction" of the late 1980s, which saw the deconstruction of an authoritative discourse and the simultaneous creation of a meta-discourse on ideology, as described by the anthropologist Alexei Yurchak in relation to soviet perestroika. The famous appearance of the television healers Allan Chumak and Anatoly Kashpirovsky, who in 1989, on live, primetime soviet state television, set out to treat remotely millions of viewers, was symptomatic of the times.[156] The Czechoslovak "restructuring" also led to a fundamental relaxation of the ideological discourse, the cracks and fissures of which could now be filled with new topics and codes. As the historian Michal Pullmann has showed, along with a demand for popular culture, these new areas included a growing interest in organised spiritualism

151 Medical Museum of the National medical Library, unprocessed archive collection, the estate of Zdeněk Rejdák, letter from Jaromír Ošťádal, chairman of the MNV Citov, to Jiří Mostecký, rector of University of Chemistry and Technology, Prague (VŠCHT), dated 17 August 1983.

152 REHÁKOVÁ, *Člověk a geopatogenní zóny*, p. 9.

153 *Ibid.*, p. 4.

154 *Ibid.*

155 Zdeněk REJDÁK, "Deset let koncepce psychotroniky", in: *Praktické využitie psychotroniky*, p. 8.

156 Cf., for example, Simon HUXTABLE, "Remembering a Problematic Past: TV Mystics, Perestroika and the 1990s in Post-Soviet Media and Memory", *European Journal of Cultural Studies*, vol. 20, 2017, no. 3, pp. 1–17.

and ecology, even though enthusiasm faded throughout the 1990s.[157] The contemporary search for "autonomy" and "authenticity", which Pullmann deems a key theme of that time,[158] may have helped create the conditions in which interest emerged in GPZ.

From the 1990s onwards, in addition to psychotronics, whose claims to scientific status remained unrecognised by the state, folk medicine was free to develop, along with various forms of spiritualism and practices associated with the vague concept of "esoterics". This was touched upon by the sociologist and architectural theorist Bohuslav Blažek in the "Blank Spaces" section of the magazine *Respekt*, in which topics were to be discussed that had hitherto been overlooked by state socialism.[159] Blažek welcomed these developments as a long suppressed area of heterodox knowledge that could finally be disseminated freely after the collapse of the socialist ideological apparatus. His enthusiasm was no doubt shared by many, as we see from the sheer volume of material on GPZ published by enterprising researchers in the first post-revolutionary years especially. At the same time, the boom in esotericism could count not only on foreign imports, but on a well prepared domestic base to which institutional psychotronics contributed significantly, though far from exclusively.[160]GPZ thus maintained its place in the thinking of many citizens and vigilant developers. We see an example of this in the section of the magazine *Reflex* entitled "Psychotronic Advice Column", which Jan Hnilica began editing in 1990. In answer to letters sent in by readers, Hnilica offered an explanation of GPZs, which, he stated, "are of considerable importance in understanding a folk-healing approach to the patient".[161] He claimed that studies carried out in both Czechoslovakia and abroad had proved the impact of GPZ to such an extent that "even prudent investors have begun to sit up and take notice". Prior to 1989, several dowsing instruments for detecting GPZs had even been patented,[162] while in the 1990s controversial devices claiming to block GPZs began to appear on the market.[163]

With the freeing up of media space and a revitalised confidence in the media, the conditions were created for post-socialist magical thinking. This tendency was intensified by the commercialisation of many services and products in the aftermath of the revolution, as well as by the new media ecology that was taking shape. There was a sudden upsurge in translations of foreign texts, and these offered new stimuli and breathed new life into old ones. Speculative interpretations included eclectic reflections on the "dialectic of nature" and "Czechoslovak feng shui",[164] or combined a conservative critique of radical design with stories of "buildings that kill".[165] At the same time, the expansion and

157 PULLMANN, *Konec experimentu*, pp. 190–199.
158 *Ibid.*, pp. 231–232.
159 Bohuslav BLAŽEK, "Esoterica", *Respekt*, 1991, no. 23, p. 16.
160 Clear insight is provided by another film by Viliam Poltikovič, *Možnosti psychotroniky* from 1990.
161 Jan HNILICA, "Psychotronická poradna", *Reflex*, 1990, no. 21, p. 29.
162 Equipment for locating and determining the position and shape of geopathogenic zones and anomalies in solid and liquid environments, https://skpatents.com/9-238554-zarizeni-pro-vyhledani-a-urceni-polohy-a-tvaru-geopatogennich-zon-a-anomalii-v-pevnem-a-tekutem-prostredi.html.
163 JURYŠEK – SÁNDOR – STOCKMANN – ŽERT, *Zdravé bydlení*, pp. 121–200.
164 *Ibid.* For a more plausible interpretation of this theme see Hong-Key YOON, "Environmental Determinism and Geomancy: Two Cultures, Two Concepts", *GeoJournal*, 1982, no. 6, pp. 77–80.
165 Roger de LAFFOREST, *Domy, které zabíjejí*, Bratislava: Mladé letá, 1994 (French original 1970).

diversification of the media, which now included specialist magazines such as *Gemma* and *Regenerace*, led to GPZ losing its status as a mainstream interest, a process that was hastened by a newly organised movement of sceptics.[166]

From geopathogenic zones to sick building syndrome (SBS)

Given a modicum of fine-tuning, the practices associated with GPZ could easily have survived even the post-revolutionary shift of emphasis from psychotronics to esotericism. This trend corresponds not only to the oft recalled increasing importance of preventative medicine, which sees responsibility shift to potential patients whose everyday life becomes a medical topic, but also to various tendencies in the discourse of architectural theory. The endeavour of theory to situate architecture within the broader context of the environment was – notwithstanding its relatively consistent prevalence, especially in the latter half of the 1980s – considerably weakened from the start of the 1990s onwards. Several factors were in play: the oversaturation and dissipation of the very term "environment",[167] the emergence of new problems associated with social transformation, institutional changes in the sphere of the theory and practice of architecture, improvements made to environmental conditions, and the problematic past of several leading architectural theorists compromised by normalisation.[168] Similarly, the hopes that sprung up around 1989 that the organisational structure of construction projects might become more participatory were not realised to any significant extent.[169]

As far as the topic of GPZ was concerned, a gap opened up between ambitious theory and unsatisfactory practice, whether this involve the idea of a good environment shaping the socialist man, a dream which clashed with the inflexibility of an ossified construction sector and the sluggish allocation of apartments, or the sheer difficulty of acquiring the longed for housing (and, more generally, self-realisation) under the new social conditions. Discussions centred on GPZ were thus characterised by a special place for negotiations on the relationship between health and the environment. This space was occupied by a variety of actors: concerned residents, a number of institutions, experts of various kinds, nature and the natural conceived of in a variety of ways, as well as the buildings and their individual parts, to which was ascribed an ability to affect the human organism and its health. In many respects, this was a borderline space: between the scientific and non-scientific, the professional and the laity, the public and the private, and between various different disciplines and domains. The proliferation of these binaries makes it impossible to define simple opposing attitudes and forces, since each aspect is to be found in several different contexts. The phenomenon of GPZ is shown to be a side effect of industrialisation, rationalisation and the standardisation of the construction industry. Whether GPZs are associated with "natural" causes as something beyond human influence and supervision, or with "artificial" culpability as that which has degenerated within

166 The Czech Sceptics' Club Sysifos was created in 1994.

167 Maroš KRIVÝ, "Humanizing the Living Environment and the Late Socialist Theory of Architecture", in: Vladimir KULIĆ (ed.), *Second World Postmodernisms: Architecture and Society under Late Socialism*, London: Bloomsbury 2019, pp. 33–46; SPURNÝ, "Mezi vědou a politikou".

168 "Rehabilitace", *Československý architekt*, vol. 36, 1990, no. 14, p. 4.

169 GUZIK, "Spolia", pp. 181–192.

the framework of human influence, they reveal the limits of human action and the inseparability of people from their environment. They exist in the realm of both the imaginary and the real, and represent a symbolic interchange between said realms. As such they can become a channel or valve for very differently motivated dissatisfaction within the framework of professional and lay criticism of modern architecture and modernity. Deciding on whether or not they actually exist appears to involve a choice between a complete rejection of modern rationality on the one hand, and the masking of its contradictions and shortcomings on the other. The search for GPZs in workplaces and bedrooms points to the ambivalence of places of production and reproduction in modern societies.[170] Moving beds thus offers only a very temporary solution.

170 In this respect, notwithstanding their different genealogy and other societal conditions, GPZs resemble to a remarkable extent the "sick building syndrome" that began to be investigated during the 1980s in the USA. Cf. Michelle MURPHY, *Sick Building Syndrome and the Problem of Uncertainty: Environmental Politics, Technoscience, and Women Workers*, Durham: Duke University Press 2006; Joseph G. ALLEN – John D. MACOMBER, *Healthy Buildings: How Indoor Spaces Drive Performance and Productivity*, Cambridge, MA – London: Harvard University Press 2020.