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INTRODUCTORY: ON INFERTILITY, HOPE, THE SEARCH FOR CERTAINTY AND THE QUALITATIVE APPROACH

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The 13th Czecho-Slovak conference called "*Qualitative approach and methods in the humanities*" took place at the Faculty of Health and Social Studies at the University of South Bohemia in České Budějovice (the Czech Republic) in January 2014, with international participation.

This conference series is special in that it does not place much emphasis on research findings, but focuses mainly on the ways the authors reach their findings—the used methodology (mainly qualitative). Every year the conference has a specific narrower theme. It is always very exciting and interesting to watch how this narrower topic is reflected in the individual presentations, how the individual authors have interpreted it, and what it means to them. Another "re-interpretation" round usually occurs when the conference presentations are written up for the conference proceedings or for journals. This takes place after the conference and the resulting articles are therefore influenced to varying degrees by interpretations of the topics covered by other speakers. Every year, I have thought to myself how interesting it would be to capture these interpretations and re-interpretations (or the "*semiosis ad infinitum*" in C. S. Peirce's words, see Slouková & Kunca, 2000), but I could never find the time.

This year's conference was different because I was the organizer and thus also the main architect of the conference's theme. Therefore I have probably had a once only chance to describe the *semiosis ad infinitum* retrospectively—how the official *representamen* were created and what *interpretants* preceded it.

Peirce saw semiosis as a process of attributing meaning to a sign in a continually ongoing cycle. When an *interpretant* representing a given meaning (which was not connected to the *representamen* before) is attributed to a *representamen,* the *interpretant* becomes a new *representamen*, which labels the same object. As a result of the new experience, it acquires new meanings, through which it is connected with other *interpretants* that later on become new *representamen*, and so on (Urbánek, 2004).

The methodological approach used in this introduction is a very short single case study (Hendl, 1997), in which I will describe only the parts of *semiosis ad infinitum* in which I played a part:

About 20 years ago I became preoccupied with the psychosocial and ethical aspects of resolving difficulties in conceiving a child. At that time I was interested in the fact that the worst experience for childless couples is not that they are childless but the reactions of other people (Konečná, 2008, 2009). Everyone understands politics, football and having babies and so everyone gives advice and explanations: men usually hear "I will do that for you" or "I'll tell you how to" from their friends, while women listen to thousands pieces of advice such as "you mustn't stress so much", "go to the seaside and you'll get pregnant relaxing there", "you've got a psychological block, go to a psychologist" or "you mustn't lose hope and it will work out okay". Different therapies are recommended, from eating vitamins to having an unblocking séance and more esoteric approaches giving or relinquishing non-specified energy. Hana Konečná investigated the reasoning behind such diagnoses and therapies, which led me to focus more on how research methods were described in academic articles. Over time I became a member of some of the international patient alliances that began sprouting up at the beginning of the millennium (International Alliance of Patients' Organizations, European Patients' Forum, Fertility Europe).

In 2004 I also began teaching at the Faculty of Health and Social Studies at the University of South Bohemia and one of my subjects was "The basics of complex psychosomatic approaches in medicine". Reproductive medicine led me to medicine in general, or more precisely to ways of thinking within or about medicine. One of the main themes dealt with by both patients' organizations and medical education is the paradigmatic change "from a biomedical to a holistic/ psychosomatic/ bio-psycho-socio-spiritual/ complex/ systemic/ patient-centered approach" (select as preferred), and so the focus on evaluating quality in medicine from the patient's/ individual's point of view (Konečná, 2007; Konečná & Slouková, 2013a).

I became fascinated by the absurdity of the situation: The focus is on the uniqueness of the patient, on the very individual progression of the illness and the context within which it occurs (and therefore on individualized therapy), and on the individual's personal values. But this approach is to be carried out on the basis of statistical-based research findings and through the complete formalization and "guidelization" of all medical care (Konečná, Slouková, & Mardešić, 2012; Konečná & Slouková, 2013b).

My search for formalization limits in medicine and for certainty in medicine as well led me to read about modern mathematics and physics. I wondered whether it was possible to "count", "predict" or "ensure" uniqueness, and if so, how? Mathematics and physics have always been held up as examples for the humanities thanks to their accuracy, explicitness and reliability! After years of reading the medical and psychological literature I suddenly entered a completely different world, because the mathematicians and physicists I read wrote about the limits of cognition, about uncertainty, vagueness, about the increasing complexity of cognition and the difficulty of dealing with it, etc. Consider this example:

> Twentieth century science, especially in the first half, made several shocking discoveries that indicate that the world is not as easy to understand as we might think. People had to quickly

> and conclusively part with the romantic optimism of the nineteenth century, which held that there was nothing in this world that a persistent, determined and broadly-trained researcher could not know. However, we now know that even in logically coherent mathematical theories, there will always be things that are not only not known but also unknowable (Mareš, 2011, p. 223).

Or another one, from the editorial of *The Lancet*, an important medical journal:

> Uncertainty is inherent in health care, as it is in all aspects of complex behaviour in which outcomes are non-linear. Tolerance of uncertainty is a necessary skill for effective care and self-preservation as a doctor. It can also enhance experiential learning. But in a world of increasing medical knowledge, capabilities, and expectations, the extent of uncertainty is rarely discussed, despite findings that one in three necropsies disagreed with the stated cause of death. Evidence-based medicine provides several ways to quantify and communicate uncertainty, but does so from a probabilistic rather than a human perspective (2010, p. 1666).

The call to organize the next conference in the *Qualitative approach and methods in the humanities* conference series came amidst thoughts like these.

The narrower conference theme had become a certainty before the faculty had agreed to host the conference. It was "Pencil and paper or computers?" The first "interpretant" was the broader definition that appeared on the call for papers: The qualitative researcher is no longer a weird character conducting research with pen and pencil, later to be surrounded by millions of paper notes in a dimly lit room. Today, the researcher is equipped with recording devices, cameras, laptops with high-tech software, and other paraphernalia that used to be associated with the "hard" sciences. In qualitative research, we use technology and mathematical gadgets not only to collect data, but also to analyse them. Academic articles are often full of phrases such as "interviews were recorded", "'XY' software was used to transcribe the interviews', or 'YZ' software was used to analyse the data". But what do these phrases actually mean? The theme for the upcoming conference is how technical and mathematical instruments have come to permeate qualitative research in the social sciences and humanities. Which instruments and methods do you use? Do they help you in your research? Or have they failed to be of any help at all? Is there a difference between what you perceive the respondent tells you, and what has been caught on a recording machine or camera? Is there any difference between "paper" analysis and one utilizing modern technologies? Do technological interfaces play any role in data collection/ analysis? Is the interpretation of an ultrasound scan qualitative or quantitative research? The social sciences and humanities include many areas of inquiry—from philosophy, psychology, sociology, anthropology, and so forth, to philology, nursing and medicine. Each of these areas makes use of their own technical and mathematical tools, while being an area for conducting qualitative research. Therefore we welcome specialists from all the social sciences and humanities who would like to share their experience and opinions of, enthusiasm for and disillusions with the intersection of "hard" and "soft" methods.

The single case study could end at this point because once the "representamen" had been issued, my influence came to an end; the interpretators were independent from me. That is true; I had no influence on the content of most of the contributions. But I had an influence on some of them: those that were invited. I simply told some of them what I would like to hear

in their presentations. Specifically I defined the topic interpretatively for the invited speakers who are not amongst those who traditionally participate in the conference series—mainly psychologists and sociologists.

Physics is associated with precise calculations of direction and speed, with perfectly planned flights of artificial satellites, or—by those who are technically oriented—with the theory of relativity. I asked a renowned physicist, an expert on the theory of relativity and cosmology, to explain the role of an observer in quantum physics. He suggested a presentation titled "Does an observer belong in physics?" He explained the principles of quantum physics using the fact that he had left one of his shoes at home as his example. Although he cannot see the shoe, he knows exactly which one he left behind, because he knows which one he took to the conference with him. This is the second article in the monothematic part of this issue, by Jan Novotný, and fortunately, the case of the forgotten shoe can also be found in this written version.

The next invited speakers were a computer scientist, an expert on systems theory, a lawyer, and a doctor, the head of an assisted reproduction centre. The discussions around the themes and the ideas about what they wanted to present were lively. I assume you can imagine the presentations—the range of new ideas that emerged as they approached the topic of the conference from the viewpoint of their own disciplines and also tried to interpret the ideas into more everyday language so that the participants from other disciplines could understand them at all! These articles will be published in forthcoming issues of the journal, in other monothematic parts.

The other invited speakers were from the humanities and so I did not interpret the "representamen" for them or, in other words, the titles and content of the presentations was left up to them. A philosopher-cum-theologist spoke of how "to draw on the sources of reason itself" and how to educate the critical reader; an expert on psychometrics and semiology explained how the words "qualitative" and "quantitative" can be misunderstood in psychology; an expert on cognitive psychology described the mental traps that make us absolutely sure of our interpretations and thus make it difficult to be able to check and recheck our "theories" and to think and remember things with much accuracy and rationality. This is the article by Aleš Neusar titled "To trust or not to trust? Interpretations in qualitative research". A psychologist-cum-mathematician then described his ideas about how fuzzy approaches from mathematics can be very usefully applied in psychology. This is the fourth article in the monothematic part, by Jan Stoklasa, Tomáš Talášek and Jana Musilová, entitled "Fuzzy approach – a new chapter in the methodology of psychology?"

Thus in the monothematic part of this issue, readers will find contributions from the conference and as a result be able to follow the next steps of the "semiosis ad finitum" on their own.

The world-renowned mathematician Ian Stewart (2009) says that it takes a hundred years for new mathematical tools to become part of practice. "Pencil and paper or computers" was not selected as the title of the conference because I wanted to suggest that experts working in the humanities were fools since they are not able, in the internet era, to learn about tools that would lead them to more precise results. I just wanted to begin a discussion among people from different disciplines about the thoughts that mathematics, physics and their creation—technology—might stimulate what they bring us and what they take away from us. It would,

of course, be good to use new tools and to obtain more precise results. But at the same time we must not forget that precision is beneficial only sometimes. There are situations when inaccuracy is more "right" and brings utility, meaningfulness or hope. To use a metaphor from the physicist's lecture: the professor was absolutely sure that his right shoe was in the town of Budějovice and the left one in the city of Brno, but the next day he had to sit in the lecture hall in a wet pair of shoes that he had been wearing the night before, when returning from the conference social event in the rain…

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