International Society for Intelligence Research (ISIR) Conference Recap

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The Socratic paradox—stating, "I know that I know nothing"—could be a statement made by an intelligence researcher. Humankind is the only species gifted with reason and the ability to think, though, ironically, we have quite limited knowledge about how our brains and minds actually work. There are a lot of theories and hypotheses regarding the origin of intelligence and interpersonal differences in general cognitive ability. Incrementally, scientists are making progress in the area of intelligence research; and, once every year, researchers from all over the world gather together in order to learn from one another about the latest scientific findings.

Being a person who is always eager to learn and also highly interested in the topic of intelligence research, I decided to attend the 22nd Annual ISIR Conference,[1] which took place in Vienna from the 25th to the 27th of July, 2022. Thinking that a few other Thousanders might be interested in this topic as well, I decided to write a compact summary containing the most valuable insights and key takeaways from this conference, which I personally found to be an incredibly inspiring and enriching experience.

The opening remarks took place on the 24th of July, one day before the actual start of the conference, followed by a talk about the advantages and disadvantages of meritocracy. The conclusion said that our societal system may be an imperfect one but is, nevertheless, the most reasonable one we know. This outcome was explained by the crucial positive effects of meritocracies: the enablement of social mobility and the increase of economic productivity—both due to the mathematical function of merit being equal to intelligence plus effort—which push people to do their best and fully utilize their capabilities. Thus, the desirable effect of intelligence proves to be more important than a person's socioeconomic status when it comes to education.

On the 25th, the conference focused on the topics of "Neuroscience I," "Education I," "Mental Health," and "Social and Life Outcomes I." The lectures on neuroscience mainly revolved around the basic nature of intelligence and its implications. It was stated that intelligence is, to a large extent, determined by our genes, and that the genes which increase intelligence also increase the risk of autism. Furthermore, it was pointed out that intelligence has a biological basis in brain structure and brain function and that, according to the "g-neuron hypothesis," having a large amount of a certain kind of neurons—so-called Von Economo Neurons (VENs)—may be the reason for increased intelligence in individuals. As is generally known, a large number and great diversity of different cognitive talents make up the intelligence of a human. The concept of intelligence not being one-dimensional leads to the idea that it is a composition of a general factor plus specific ability factors, as exemplified by the cases of people with savant syndrome who have their "islands of genius."

The next part of the conference focused on education and highlighted the fact that—on the one hand—society makes us more unequal by rewarding certain genes (i.e., smarter kids get sent to better schools) and "punishing" others, and—on the other hand—this very separation of intelligence groups leads to unwanted effects by fostering a split in society.

Continuing on from the previous topic, the next lectures also examined an issue from two different perspectives. First, the "disharmony hypothesis of giftedness" was presented, which is in line with what the Greek philosopher and polymath Aristotle said more than two millennia ago: "No great mind has ever existed without a touch of madness." Second, overexcitability was discussed as being strongly associated with giftedness: when everything is more intense, not only do the highs feel higher but also the lows feel lower. The "mad genius" stereotype indeed opposes a couple of studies which attest to highly intelligent individuals' superior physical and mental health. Yet other studies propose a similar mental-health-disorder prevalence between high- and average-intelligence people. Taking into account the fact that not even the intelligence researchers themselves have the same opinion on the topic, you can imagine the ongoing discussions these lectures sparked.

The last lecture block of the first conference day was dedicated to social and life outcomes and the influence of intelligence on these. Two aspects were emphasized: (1) the correlation between religiosity and IQ, and (2) the correlation between professional occupation and IQ. Studies showed that religiosity might increase activities which are likely to stimulate cognitive functions, such as singing, praying, studying the bible, and social interactions at church. In addition, religiosity can also reduce stress, anxiety, or feelings of loneliness as well as provide a greater sense of meaning and purpose in life. Regarding the IQ of a person and the job he or she chooses, it can be said that there are thresholds for certain jobs; e.g., not everyone can become a mathematician. Even though many people do not like to hear such a controversial statement, it is a simple truth that cannot be ignored.

Nevertheless, referring to the controversial statement, a talk from the category "Psychometrics and the Nature of g" held during the first half of the second conference day pointed out that professional interests are mostly a function of self-estimates and not of "true" abilities. This phenomenon gets even more interesting when compared to the "hubris-humility effect" that leads to over- or underestimation of abilities and is dependent upon biological gender: men have the tendency to overestimate themselves, while women have the tendency to underestimate themselves. This miscalculation could explain the gender gaps we have in many occupational fields today.

The next lectures, "Genetics, Biology and Evolution," explained the emergence of age

differences in cognitive ability. According to Cattell's model of fluid and crystallized intelligence, these differences are caused by learning from ability, but they are also simply due to biological maturation (i.e., hormonal development).

In the block devoted to "Cognitive Psychology I," a new computerized test of fluid intelligence was presented. For more information on this subject, the paper, "Graph Mapping: A Novel and Simple Test to Validly Assess Fluid Reasoning," is available online.[2]

The last talk of the second conference day was given by famous Harvard Professor Steven Pinker and focused on his latest book, "Rationality: What It Is, Why It Seems Scarce, Why It Matters." Pinker defines rationality as the use of knowledge to attain goals. He states that "humans are irrational" and, moreover, illogical with abstract symbols. Pinker explains this claim by the fact that ecological rationality works for most people, but they have obvious trouble with formal rationality, illustrating that rationality and intelligence are closely related.

The third conference day began with an interesting talk about the correlation between intelligence and creativity and included an outlook on the future of intelligence research. Regarding creativity, researchers have found that creativity is largely determined by openness to experience, which, in turn, is largely determined by intelligence. These correlations are combined in the "threshold hypothesis": above-average intelligence is a necessary but not a sufficient condition for high creativity.

In the next lectures, "Education II," current developments in the field of education were looked at in more detail. Undesirable effects—such as a recent trend toward marginalizing the role of intelligence in admission to higher education—were revealed and, rightfully, critically questioned.

The blocks on "Cognitive Psychology II" and "Neuroscience II" contained a lot of rather technical information that I will not describe in detail here.

The last lecture block, "Social and Life Outcomes II," gave explanations for everyday phenomena as well as an outlook on the development of intelligence distributions in the 21st century. Based on the observation that there are extreme high-IQ communists as well as extreme high-IQ capitalists, a question was raised: Does intelligence permit people not only to track and drive the "consensus" but also to explore and adopt any non-consensus view? The suggested link of cognitive ability with extremism was also replicated in other studies. Another topic these lectures addressed was the reversal of the Flynn effect. In the 20th century, there was a constant increase in average intelligence across the whole population. But more recently, several studies in Western countries have shown a decrease in average intelligence. To give a concrete example of how severe this trend is, the decline of average IQ within the last 10 years in Germany is 5.55 points, which is more than a third of one standard deviation.

Having highlighted the most important lessons from these three incredibly dense conference days in the beautiful city of Vienna, I hope to have sparked the curiosity of other Thousanders. Perhaps next year, I will see quite a few of you at the 23rd Annual ISIR Conference!

I look forward to lifelong learning and fruitful written exchanges with my fellow Thousanders.

NOTES

1. International Society for Intelligence Research, https://isironline.org.

2. J. Jastrzębski, M. Ociepka, and A. Chuderski, "Graph Mapping: A Novel and Simple Test to Validly Assess Fluid Reasoning," *Behavioral Research* (April 2022), https://doi.org/10.3758/s13428-022-01846-z. Ω