

1. The Diversity-Compliance Trade-off

What is intelligence? – A never answered question...

How can it be so difficult to answer this question? In dictionaries, lexicons and textbooks you find tons of definitions for tons of expressions. Usually you can describe an expression in one single sentence. If it goes further you may need three to four sentences until the ignorant knows what you're talking about.

So, how come intelligence should be an "indefinable expression"?

Well, we have read the attempts of many leading experts in the field to describe intelligence. The results were all kind of different definitions – none of those experts seemed to be sure about their own definition.

Doesn't that astonish?

No, it doesn't. Intelligence is a large field and the human being is not yet ready to even understand its fundamentals. Maybe he will never ever understand what it's all about. We are living in a huge complex environment and nature is just too complex to explain in three to four sentences. Intelligence is something that was created by nature and for sure not by us humans ourselves.

If we are not able to describe the expression "intelligence" we at least could try to come up with a common point-of-view in which we agree.

The underlying common theme involves "coming up with something new" and "ability to adapt oneself adequately to new situations in life" [Pinter].

The key point is generating diversity while complying with the givens. We call this the *diversity compliance trade-off*.

- *Innovative Company*

Let's think about an innovative company. Right now this wonderful Sony VAIO laptop is in front of me and I ask myself if Sony Corporation can be called an "innovative company". I remember that day three years ago when I was in New York and I saw that Japanese guy working on a Sony VAIO laptop. I was enthusiastic about that wonderful machine. That time they were not even on the US-market yet and that laptop seemed pretty futuristic to me. What was so special about it? Well, it was so thin and cute. It was just a whole new design and to my eyes it looked wonderful. Personally I'm thinking of Sony as an innovative company. They always launch new products on the market with new designs. Still those products have to comply with existing rules, existing technological standards. If they don't, they won't be successful on the market. Sony sometimes is too innovative. If e.g. they launch a 99-minute CD recordable, then this cannot be called "complying to rules", as this breaks CD-ROM standards. No one really needs a 99-minute CD-ROM, honestly, if there are no other manufacturers who got compatible products. Maybe Sony thinks further and tries always to break the market.

All-in-all Sony Corporation can be called an intelligent company as it generates diversity while complying with the given technology. And intelligence results in success of this company. My thoughts about Sony may be too positive and quite exaggerated, but this was just an example. I might as well have thought about another successful company.

- *Clothing*

Another view of the diversity-compliance trade-off is how people dress. Some people try to break rules and dress themselves extravagant. If someone e.g. wears one half of a football as a hat, golden bracelets, and huge pink boots, this might attract some interesting people. On the other hand, if this person tries to go for an interview to a

famous bank, that might be the wrong way of clothing. Attracting attention isn't useful in every situation. To be dressed intelligently again is a diversity-compliance trade-off. You need to fit some social standards of dressing but you should still keep your own style to stand out from others.

- Conversation

Conversation between human beings is a great example for the diversity-compliance trade-off. If you talk to a computer in a way of the Turing test it's not hard to figure out that there is no human being hidden in the computer's processor. So far, no machine passed the well-known Turing-test. The problem of the simulated person, the artificial person that is represented by the computer, is that it lacks diversity.

That's why we don't think of it as intelligent. In a real human conversation each conversation partner has to come up with new ideas and sentences that are not only reconstructed answers to what the other partner says. They are much more than that.

Conversation is an important way of judging a person whether she/he is intelligent or not. Even through a phone-call we can make decisions about the intelligence of the other person on line. The person doesn't even have to know the language perfectly; we still get a feeling about his reaction, when we start talking.

2. IQ as a good predictor of professional and social success

Why is the IQ, in spite of all its shortcomings, a relatively good predictor of professional and social success in Western societies?

A lot of people don't believe in the general factor of intelligence, called factor g. If you don't agree with the existence of factor g, then there is no IQ either. IQ is meant to be an exact measure for factor g.

Sure, it is hard to believe, that we can simplify such a complex thing like intelligence to one single number. Still there must be some truth behind this magic number! There are so many psychologists that have studied intelligence and IQ theories, so you can't just ignore their results.

Conventional tests of intelligence primarily measure analytical skills. Intelligence actually is more than that. It can be separated in analytical intelligence, creative intelligence, and practical intelligence [Sternberg – *Triarchic Theory*]. If we're able to combine all those abilities in a comprehensive test we may be able to get something similar to factor g.

The bad reputation of IQ-tests is to be explained by the fact that most of those tests are incomplete. A lot of them got a narrow view about intelligence.

Still, IQ tests are a relatively good predictor of professional and social success. Most people's IQ stays constant throughout their whole life. IQ though is not just a static view of human abilities.

IQs are about the ability to solve complex problems that can be reflected in the real world. Solving problems is an important reason for professional success.

If one is able to integrate real-world problem solving and decision-making into a test we are also able to measure practical intelligence. This way, IQ definitely is a good measure.

As long as we don't totally understand intelligence, we are not able to get an exact factor g. Maybe we will never ever understand intelligence...

But, for now, IQ is a good measure for what we call intelligence. Some people believe in that some do not. This is still an open research question.