

Andrzej W. Mitas

Biometry - - modern dimension of tradition

Scientific cognition of a human being understood as a social goal has several aspects. One of them, continuously since the dawn of history, is to separate particular features, which are subsequently used to distinguish the friendly subject from a potentially hostile one. In another dimension identification is justified by the potential tendency to change one's mind. The agreement between the parties must be binding because it then becomes the basis for the creation of further existence. Sign confirming that the parties reach an agreement must have the attribute of persistence over time, unchangeability and a strong (preferably unequivocal) connection with the signatory. The last attribute, in opposite to the biological features of genotypic origin, does not have an electronic signature, which due to the nowadays natural tendency to digitize everything that exists is forced. Statutory record, saying that the identification need to be realized with the probability of "bordering on certainty" is probably clear to a lawyer (this is confirmed by discussions between the author and the representatives of this profession), but for so-called "average man" is not a cause for satisfaction or internal acceptance. Admittedly, media information about breaking the cipher concern on an entirely different codes, but in the user's psyche "bordering on certainty" sow the seeds of suspicion that a criminal locates his activities exactly on this border.

Thus biometry, understood here as a method of strongly automated measurement of human individual features to determine unique connection between subject and his signature, becomes for us a way to overcome our fears.

In a monograph strong emphasis has been placed on the sociological dimension of biometrics. The omission of this problem, in case of trying to implement technology, constitutes the primary cause of the many blunders and ultimately failed implementations. Today the citizen, much more carefully than ever before, safeguard the confidentiality of their personal data, belonging to a group of so called "sensitive data". This is probably because data have never been so open and often simply "corrupt" like they are today. A visual artist illustrating this book showed it in this way.



A single fingerprint (or even a whole set of them) is much more accessible on the packaging thrown into the trash by a passer than in the directory of a department issuing the biometric documents, whether in the secret police laboratory file.

It can be assumed that the vast majority of citizens remaining under the obvious influence of crime films, will be strongly opposed to dactyloscope for the purpose of preparing population records. In this context, this plastic bottle, incidentally containing also saliva of its prior holder, along with easy to analyze DNA, should give much food for thought. Also it is not worth being terrified that our hair on the button jacket of adjacent passenger on the bus is the same exposure of physiological biometrics like this from DNA.

About the biometry people speak today everywhere and at every opportunity. Being a perfect part of the electronic product market, biometry is presented as an absolutely modern, technical assistance component of everyday life. Its old features, to some extent, emphasize not yet discovered possibilities. At the same time the truth that biometrics (our personal identifiers which we have from nature for life and even after the death) is ignored. This phenomenon is not new, but it has been known since the dawn of history.

Contemporary "identification" or "authentication" is difficult to rank as groundbreaking news, but their modern usage has its advantages. Electronic signature and its functional and formal derivatives is the subject of government sustained interest, because it gives a chance for undeniably authentication of transactions, which are concluded socially and growing exponentially in number. Repudiation attribute raises consequently users' concerns about unauthorized abuse, thus providing an excellent occasion to make efforts to implement biometric technology.

Physiological and behavioural biometrics, exemplary included in the presented monograph, not only (obviously) are characterized by errors of method or acquisition, but also rely on statistical assumptions not verified analytically. However, being somehow immanent and usually controlled user's property, they resist manipulation and abuse and, as a consequence, cope with the basic human need, which is the sense of security in relation to acquired and posses material goods.

Real transactions with substantial value and unique importance are concluded continuously in the traditional manner and electronic signature in the lawyer's office does not belong to everyday life. It is worth noting that the authentication is done not only on the basis of a document in any of its form, but actually has a much wider dimension. A notary checks not only numbers and series of identity card, but primarily judges the general behaviour of the contractor and his response to questions. Assessment of the witnesses in this case has a great importance. Interested parties are fully aware of the possibilities for falsification of documents allowing for an identity check. Therefore, the assessment is made parallel with the judgment of the person's psychophysical condition in the time of making the decision and its formal approval in the form of a signature. Undoubtedly, it is possible that a person with bad intentions will control emotions - the manifestations of subconscious reaction will be obscured by controlled reactions. However, it seems reasonable to assume that at the biophysical level reactions remain legible, because generally speaking the condition of a man can be called behavioural biometric.

Sceptics question the quantitative level of this cryptographic quality measurement, which is objectively right. In the author's opinion, this does not mean the rejection of the concept, but rather a rise to take action of multi-modal nature, like our human, multi-sensory perception of reality.

Modern biometry is still a very good object of interest for basic and applied research. On the one hand, the increase of the reality knowledge degree allows for partial description of human functioning in a biocybernetics feedback. The other side of this issue is a chance to improve live comfort, especially in the context of the application of information compression techniques that provide appropriate security level of sensitive data.