Mind, machines and majesty – the boundaries of humanity.

John Searle - Made in God's Image

The classification of humans in the biological scheme of things as Homo sapiens, reminds us that we are primates. While in terms of our DNA we differ from the great apes by less than 2%, as Stephen Pinker has pointed out, in our lifestyles we are vastly different. For we are Homo sapiens, the primates with wisdom and knowledge. Biologically, the progress from caves, animal skins and grunts to modern technology, creativity and communications is because of our brains. But the Christian faith has always believed that humans are much, much more that the product of our genetic blue print and its diverse neurophysiological progressive expression. We are made in the image of God. We are divinely crafted. We are the outcome of God's intention and activity. To be human is to be a creature to whom God may reveal himself, with whom he may have a relationship and in whom he may be glorified. It is to have responsibilities to exercise, relationships to nurture and a reproductive process which is intimate. This is the glory of being human. Its tragedy is that humans have themselves defaced the divine image and tarnished its glory. The wonder of the Christian faith is the belief that what God made and what humans marred, he is patiently restoring to its former glory.

Calum MacKellar - Embryonic, Fetal and Post-natal animal-human mixtures

The potential power of embryonic and fetal inter-species mixtures became clear about a decade ago in a series of dramatic experiments in which small sections of brains from developing quails were taken and transplanted into the developing brains of chickens. The resulting chickens exhibited vocal trills and head bobs unique to quails, proving that the transplanted parts of the brain contained the neural circuitry for quail calls. It also offered astonishing proof that complex behaviours could be transferred across species.

Although moral intuitions about the creation of animal-human mixtures, especially at the embryonic and fetal level, may vary, it is subject to deep ethical concern to many for whom the creation of animals with certain kinds of human characteristics or with human brain and reproductive cells, would be offensive.

The presentation will give an overview of these ethical concerns while reviewing some of the experiments having already taken place.

Graeme Finlay - Genetics and Humanity

The explosion in knowledge of genomic science over the last few years has given us a vivid picture of our genetic history. Our genome has been assembled by processes that are ongoing and familiar to geneticists, and that are fundamentally random. These processes include the duplication of large tracts of genetic material with subsequent diversification of genetic information. This 'copy-and-paste' mechanism generates new functionality. On the other hand, genes have become disabled by the gamut of mechanisms that operate today in the development of diseases such as cancer. The delicately balanced and fruitful interaction of chance and necessity has been described as the basis of evolutionary development. It has anthropic implications (as described by

Polkinghorne) and is fully compatible with the concept that God works in history. This productive interaction between antithetical concepts seems also to be the way that God has worked in the histories of Israel and of Jesus as described by the Bible writers. Under God's control happenstance is formative.'

David Booth - Minds, Mechanisms and Made Free: the scientific study of human life, in gratitude to the Creator

Minds are systems causally distinct from brains or cultures, while dependent on both. Our mental mechanisms give us the capacity to have reasoned viewpoints on feasible actions, i.e. to know right from wrong and sometimes to choose freely between them. The Bible makes clear that these diverse causal powers of entities in nature, society and human minds are continuously created from nothing by God, out of love for each person. God has provided me opportunities, sought and unbidden, to serve our loving Creator in the study of biosocial cognition.

When an adult helps a child who has fallen and cut his knee, her brain works in such a way that the red colour of the blood makes her leg muscles contract and relax. What is more relevant to mechanisms of free will is that her action is psychologically determinate - caused by the sight of injury, sympathy and a sense of competence, perhaps working subconsciously. If so, the woman is compelled to choose freely between moving towards the bleeding child, rushing back into the house for the first aid kit, phoning for an ambulance or whatever her culturally educated mental machinery yields as the wisest way to help. Her husband telling her earlier that she was bound to do exactly what she does may have no impact on the way her mind works on that occasion. Maybe it's different if he correctly predicts what she's bought him for his birthday: that might deepen her critical and creative reasoning and free up her habits of choosing him presents. These are scientific issues about that person's moral mechanisms, cf. (e.g.)
http://psg275.bham.ac.uk/research_03/empathy.htm

Bill Newsome - Mechanism, Mind and Choice: On Neuroscience and Human Freedom

Perhaps the central goal of modern neuroscience is to understand how mental processes and intelligence arise from the interactions of billions of neurons within the brain. Fundamental to the practice of modern neuroscience is the assumption that the operations of the brain can ultimately be understood in mechanistic terms in much the same manner as we understand the operations of a living cell, a digital computer, or an airplane. The success of this scientific program in the modern era raises substantive questions about the meaning of human choice and freedom, and consequently about our understanding of personal responsibility before our fellow humans, the law, and God. I will argue that reliable neural mechanisms are in fact essential to all of our behavior, and that the existence of such mechanisms does not compromise the notion of meaningful choice in any serious way. Higher levels of control emerge in the development of complex systems like cells and brains; these levels of control are real, consequential and indeed essential for understanding all complex natural phenomena including human mental processes.