

Remembering John Tooby

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Dear all,

We are here today to remember John Tooby.

I know that some people at EHBEA are wondering why some of us wanted to organize this session. It's not because we want to erect a statue to a great man. There are already too many great men of science, too many stars and too many gurus. We don't need that. Science is an open and egalitarian process. And John would have hated that. He was not interested in fame, in positions, in social rewards. He was interested in science.

We wanted to organize this session simply because John has helped, along with others, to pave the way for the evolutionary study of human psychology. And that's not nothing.

I know that many at EHBEA think evolutionary psychology is about studying proximate mechanisms, and the intricate little details of our mental architecture. It is that, but it is not just that. It's not just people interested in psychology. It's more than that.

Let's go back to the foundations of our field.

At EHBEA, but also at HBES, we're all the inheritors of the inclusive fitness revolution, of the work of Hamilton, Trivers, Maynard-Smith, Wilson, Dawkins, and we share the same toolbox: kinship altruism, reciprocity, parent-child conflict, foraging models, etc.

In the 60s and the 70s, when all these works came out, there was a lot of hope: at last, we had a naturalistic, analytical way of analyzing human behavior.

But human phenomena are complicated. True, people help their kin, but they also compete with them and have relationships based on short term and long-term reciprocity, and they manage their reputation within their family, as well as outside of it, and they respect their elders because of the power they have. Things are messy.

Think about what we are doing right now. We're celebrating the work of an individual who doesn't exist anymore, and who will never know how much he meant to us. We talk to each other, we talk about things that everyone knows, and yet we're happy to hear them talked about.

John would have loved to dissect this social situation, just as he loved to dissect 'The Seven Samurai' with his students. He would have pondered the relative role of reciprocity, prestige, reputation management, coalition, cheater detection, fitness interdependence, information seeking, cognitive recalibration in producing such a phenomenon.

That is my point. It can be difficult to use the adaptive lens if we stay at the behavioral level. Behaviors are not always adaptive. They often result from the sum of many individuals trying to do many different things at the same time. Me talking to you at the moment is not adaptive. It is a joint phenotype of some of my evolved motivations, and some of yours.

What is adaptive are these evolved motivations, these evolved mechanisms. Humans are not fitness maximizers, they are adaptations executors.

And that's why doing social sciences is much easier if we include psychological mechanisms in our toolbox. We need these hidden variables to account for the complexities of human behaviors.

In reality, willingly or not, we're all doing evolutionary psychology.

So we might as well do it explicitly, using the constraints of cognitive science and laboratory results. And that is what John did.

(Picture of the welfare trade-off ratio)

(Picture of the kinship index)

People often talk about the modern synthesis that brought together population genetics, paleontology, and molecular genetics. John continued this movement of synthesis. Following the work of Hamilton, Wilson, Trivers and others who had contributed to extending the evolutionary approach to social behaviors, John helped continuing the evolutionary synthesis.

And here another thing is what makes John so special. Not only did John contribute to the scientific revolution that was evolutionary psychology, but he also made us *experience* this scientific revolution. What makes his articles so fascinating and stimulating is his passion for science. For him, evolutionary psychology is part of a broader movement.

Allow me to quote the beginning of 'The Psychological Foundation of Culture', his most cited article. Where others might have merely articulated evolution and psychology, John reviews the entire history of science!

(Screen shot of the first page of article)

Disciplines such as astronomy, chemistry, physics, geology, and biology have developed a robust combination of logical coherence, causal description, explanatory power, and testability, and have become examples of how reliable and deeply satisfying human knowledge can become. Their extraordinary florescence throughout this century has resulted in far more than just individual progress within each field. These

And he continues. We are now the successors of Harvey and Wöhler:

(Screen shot of the first page of article)

and magnetic phenomena into a single system.

And, one by one, the many gulfs separating life from nonlife were bridged and then closed: Harvey and others found that the macrostructure of the body turned out to operate according to comprehensible mechanical principles. Wöhler's synthesis of urea showed that the chemistries of the living and the nonliving were not forever separated by the occult operation of special vitalistic forces. In Wöhler's wake, the unrav-

And of Darwin of course, and of the revolution in computational sciences, and so on.

This leads us to a spectacular view on the place of humans in the universe:

what humankind is and why we have the characteristics that we do. From this vantage point, humans are self-reproducing chemical systems, multicellular heterotrophic mobile organisms (animals), appearing very late in the history of life as somewhat modified versions of earlier primate designs. Our developmental programs, as well as the physiological and psychological mechanisms that they reliably construct, are the natural product of this evolutionary history. Human minds, human behavior, human

This shows John's deep attachment to scientific integration, both to the natural sciences and the social sciences:

or humans and their relationships with one another.

The rich complexity of each individual is produced by a cognitive architecture, embodied in a physiological system, which interacts with the social and nonsocial world that surrounds it. Thus humans, like every other natural system, are embedded in the contingencies of a larger principled history, and explaining any particular fact about them requires the joint analysis of all the principles and contingencies involved. To break this seamless matrix of causation—to attempt to dismember the individual

Those who knew John well are aware that he often could not just stop there, and as a talk by John Tooby went on, the probability that John would attempt to demonstrate that psychology ultimately should be based on the second law of thermodynamics approached one...

(Picture of John presenting.)

Here is John, a revolutionary mind, who contributed to a revolution.

Of course, being at EHBEA, you are well aware that this is not the only revolution our field has experienced. At the same time that evolutionary psychology was developing, another field was emerging: human behavioral ecology, which aims to use the very same tools brought by Hamilton, Wilson, Trivers to explain the variability of human behaviors across cultures.

For a long time, these two fields, EP and HBE, were seen as separate, even conflicting domains. One focused on the variability of behavior, the other on the universality of mechanisms. But things are changing. The two fields are integrating with each other.

As Clark Barrett, president of HBES, writes in the recent handbook *Human Behavioral Ecology*:

"A student entering the ESSs now could easily be forgiven for struggling to understand exactly how HBE and EP carve up the theoretical and empirical terrain – because, over time, they have begun to overlap more and more in what they study."(Clark Barrett)

Increasingly, we are speaking more about "evolutionary social sciences" or "evolutionary human sciences" that *"human evolution broadly defined, from human and primate phylogeny to physiology, genetics, demography, behaviour, cognition, language and culture"* (Ruth Mace)

(Screen shot of the first page of *Evolutionary Human Sciences*)

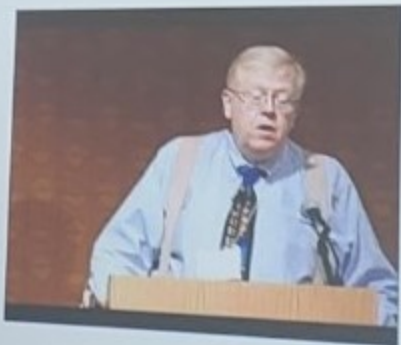
This is because all these fields share a similar commitment to evolutionary theory as an overarching theoretical framework.

"EP and HBE are approaches to the study of human behavior. As argued here, they are mutually compatible and indeed, (...) I expect and hope that these labels will eventually disappear as the evolutionary social sciences become more integrated and inclusive." (Clark Barrett)

I think would have please John: ever more integration, ever more fields and disciplines included within the same evolutionary framework. This, I think, is John's true legacy.

of humans and their relationships with one another.

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THE ADAPTED MIND

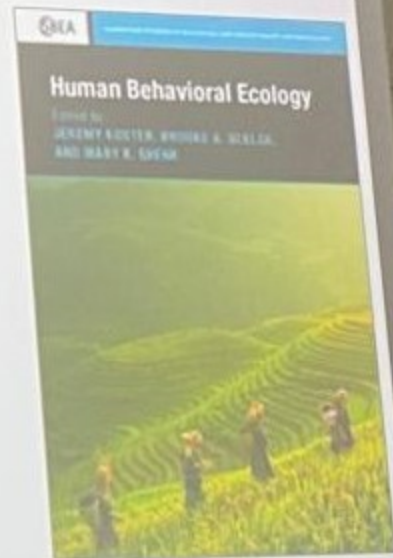
*Evolutionary
Psychology
and the
Generation
of Culture*

Terrence H. Barlow
Leda Cosmides
John Tooby

" Human Behavioral Ecology and Evolutionary Psychology are approaches to the study of human behavior. As argued here, they are mutually compatible and indeed (...). I expect and hope that these labels will eventually disappear as the evolutionary social sciences become more integrated and inclusive." Clark Barrett (2024)



HBES



The Psychological Foundations of Culture

JOHN TOOBY AND LEDA COSMIDES

INTRODUCTION: THE UNITY OF SCIENCE

One of the strengths of scientific inquiry is that it can progress with any mixture of empiricism, intuition, and formal theory that suits the convenience of the investigator. Many sciences develop for a time as exercises in description and empirical generalization. Only later do they acquire reasoned connections within themselves and with other branches of knowledge. Many things were scientifically known of human anatomy and the motions of the planets before they were scientifically explained.

—GEORGE WILLIAMS,
Adaptation and Natural Selection

Disciplines such as astronomy, chemistry, physics, geology, and biology have developed a robust combination of logical coherence, causal description, explanatory power, and testability, and have become examples of how reliable and deeply satisfying human knowledge can become. Their extraordinary florescence throughout this century has resulted in far more than just individual progress within each field. These disciplines have been integrated into an increasingly seamless system of interconnected knowledge, and remain nominally separated more out of educational conventional inertia than because of any genuine ruptures in the underlying unified knowledge. In fact, this development is only an acceleration of a long-term conceptual unification that has been building in science since the beginning. For example, Galileo and Newton broke down the then rigid (and now obsolete) division between the celestial and the terrestrial—two domains that for centuries had been considered metaphysically separate—showing that the same processes and principles applied to both. Lyell broke down the distinction between the static

Remembering John Tooby (1952 - 2023)



EHBEA 2024

