## **EDITORIAL**

# On the Idea, the Life, and the Memory

# Reflections from the Nobel Prize Award Ceremony 2011

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Each year, on December 10, the day marking the anniversary of Alfred Nobel's death, the Nobel Prize Award ceremonies are held in Stockholm and Oslo. While the Peace Prize is awarded in Oslo, Stockholm witnesses the bestowal of the Prize in 5 other categories. We had a great pleasure and honor to participate in the Stockholm ceremony, and would like to share some thoughts on this great event.

The 2011 Nobel Prize in Physics was awarded to Saul Perlmutter, Brian P. Schmidt, and Adam G. Riess "for the discovery of the accelerating expansion of the Universe through observations of distant supernovae", and the Nobel Prize in Chemistry - to Dan Schechtman "for the discovery of quasicrystals". The 2011 Nobel Prize in Physiology or Medicine went to Bruce A. Beutler and Jules A. Hoffmann "for their discoveries concerning the activation of innate immunity"1 and to Ralph M. Steinman "for his discovery of dendritic cell and its role in adaptive immunity".1 Finally, the Prize in Literature was awarded to Tomas Transtroemer, a Swedish poet, "because, through his condensed, translucent images, he gives us fresh access to reality".1

It was interesting to learn that the prize in economics formally represents a different category, and is actually the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel. It went to Thomas J. Sargent and Christopher A. Sims "for their empirical research on cause and effect in the macroeconomy".<sup>1</sup>

While the individual contributions of all the Laureates deserve utmost praise, the entire event brings up some reflections of more general nature that – we believe – are worth sharing.

We would like to briefly touch upon three themes: the Idea, the Life, and the Memory.

**The Idea** Many of us tend to think that our knowledge of the world, from basic particles to the entire Universe, is almost complete. This is

not specific for our generation, but rather reflects the perception that there is nothing beyond the horizon. This year's Nobel Prize in Physics clearly indicates to what extent we are limited in our understanding. The Laureates initially wanted to support the well-grounded hypothesis that the speed at which the Universe expands is decreasing. By measuring the brightness of distant supernovae they discovered, however, that expansion of the universe is actually accelerating. The reason for that remains unknown, but it is ascribed to the existence of "dark energy", whose nature is still to be defined.

Introducing the Laureates, Professor Olga Botner, member of the Royal Swedish Academy of Sciences and of the Nobel Committee for Physics, stated: "We have realized that we live in a universe which largely consists of components that are unknown to us."

The message that appears to us is that although not always a humble scientist is a good scientist, definitely a good scientist must be humble.

**The Life** As for the Life, we would like to make two comments: on the link between the idea and the life, and on the fragility of life.

Dan Shechtman's discovery of quasicristals in early 1980s was met not only with disbelief, but with total negation. Shechtman was dismissed from his university and virtually expelled from the scientific society. Now he takes a noble (perhaps Nobel) revenge, having paid a high price for his discovery.

It tells us that if one makes a significant discovery that challenges the existing knowledge, he/she puts him/herself in a position of a fool. It takes time and courage to prove that everybody else – not you – is a fool. So, believe in what you see, and believe in yourself.

The Nobel ceremony also proved again the obvious truth that the life is more fragile than the idea.

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Received: January 6, 2012.
Accepted: January 6, 2012.
Conflict of interest: none declared.
Pol Arch Med Wewn. 2012;
122 (1-2): 12-13
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Krakńw 2012

TABLE Laureates of the Nobel Prize in Physiology or Medicine 2000–20112

Year	Laureate(s)	Area of discovery/invention
2000	A. Carlsson	signal transduction in the nervous system
	P. Greengard	
	E.R. Kandel	
2001	L.H. Hartwell	regulators of the cell cycle
	T. Hunt	
	P.M. Nurse	
2002	S. Brenner	genetic regulation of organ development and programmed cell death
	H.R. Horvitz	
	J.E. Sulston	
2003	P.C. Lauterbur	magnetic resonance imaging
	P. Mansfield	
2004	R. Axel	odorant receptors and organization of the olfactory system
	L.B. Buck	
2005	B.J. Marshall	role of Helicobacter pylori in gastritis and peptic ulcer disease
	J.R. Warren	
2006	A.Z. Fire	RNA interference – gene silencing by double-strained RNA
	C.C. Mello	
2007	M.R. Capecchi	principles for introducing specific gene modifications in mice by the use of embryonic stem cells
	M.J. Evans	
	O. Smithies	
2008	H. zur Hausen	human papilloma viruses as the cause of cervical cancer
	F. Barre-Sinoussi	discovery of human immunodeficiency virus
	L. Montagnier	
2009	E.H. Blackburn	chromosome protection by telomeres and telomerase
	C.W. Greider	
	J.W. Szostak	
2010	R.G. Edwards	in vitro fertilization
2011	B.A. Beutler	activation of innate immunity
	J.A. Hoffmann	
	R.M. Steinman	dendritic cell and its role in adaptive immunity

Ralph Steinman, one of the Laureates in Physiology or Medicine, had died two days before the Nobel Committee decision was announced. Tomas Transtroemer, who received the Nobel Prize in Literature, was wheel-chaired to the stage, hemiplegic and aphasic, his humanity standing much higher than his physical condition.

Thus, glory and praise come late. They should not be the driving force in science and arts. Just do what you should and want. At times, the success comes when you are still alive and perceptive, but do not count on it.

The Memory It comes with no doubt that Nobel Prize winners make lasting contributions to science and arts. But how many of you can recall their names? When we went through the list of recent laureates, even in physiology or medicine, most names sounded strange (TABLE). Their ideas do live, but they – as human beings – are not preserved in people's memory. The Nobel Prize in Literature is probably an exception, since here the laureates to a much larger extent remain in public domain, and many of them may even start to be recognized because they received the prize. In other domains, even the most mighty can only

count on being remembered by those who love them. So, make sure you do have people who love you. Build up the life on the top of science.

Let us close with a quote from the banquet speech by Saul Perlmutter: "Perhaps the only thing better for a scientist than finding the crucial piece of a puzzle that completes a picture is finding a piece that doesn't fit at all, and tells us that there is a whole new part of the puzzle that we haven't even imagined yet and the scene in the puzzle is bigger, richer than we ever thought." 3

We do hope that these few impressions will make you – just like us – reflect on what is important in both life and science.

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