The Neuroscience of WAR

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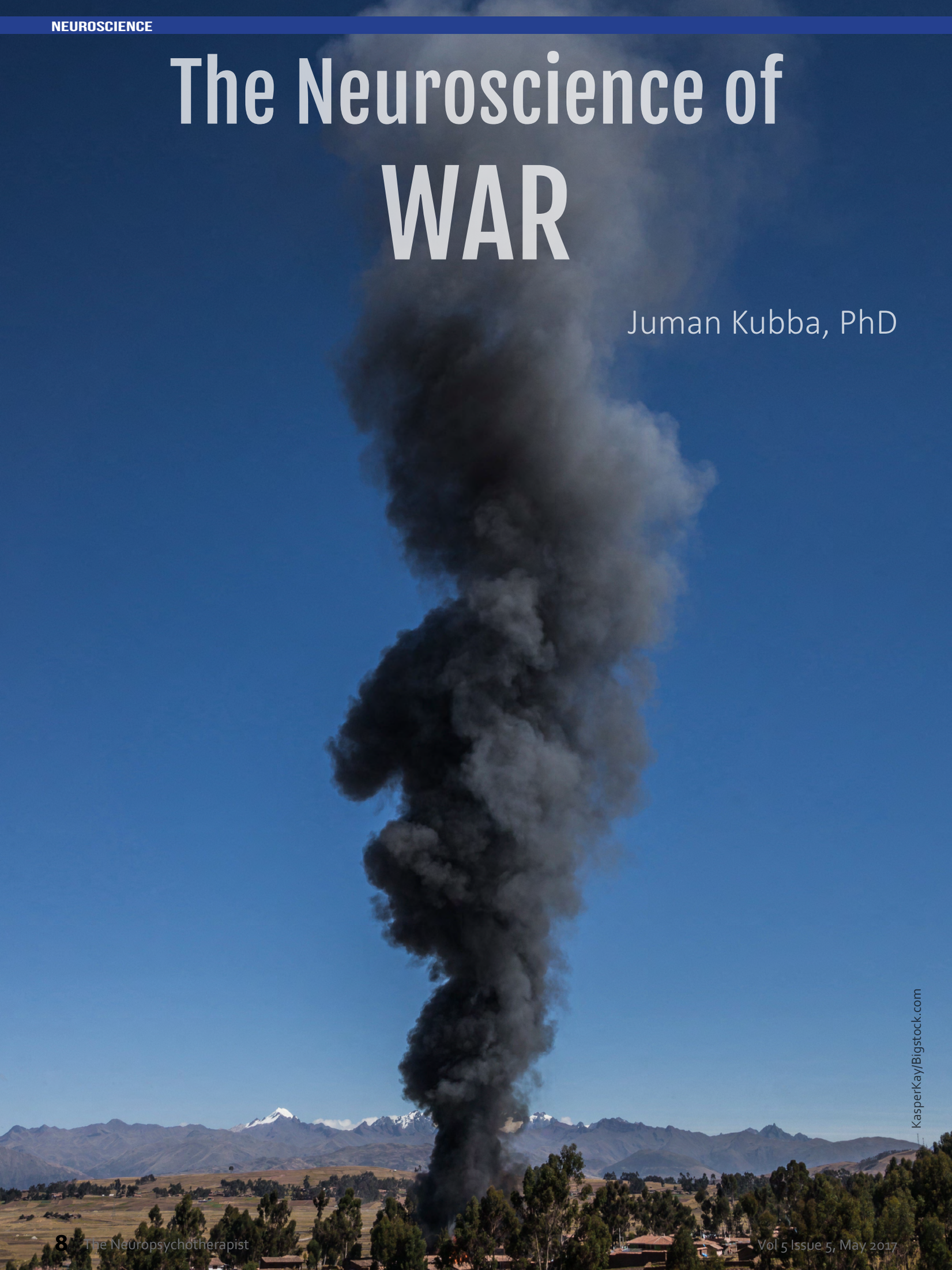

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As the Middle East rages with war and terrorism, one can only be awed by the magnitude of the conflict, the degree of the calamity that is taking place there, and its effect on the children. Millions of children in the region are going through harsh adverse conditions. They are fleeing their homes, which have turned into battlegrounds. They are walking many miles hungry and cold, seeing death and the killing of loved ones first hand. They are experiencing constant fear, panic, worry, hunger, pain from physical injuries and lack of medical care. Sometimes all this is further compounded by the loss of family members, missing school for weeks or months, and seeing trusted elders weak and vulnerable. I have been in Iraq for the past several years. The conflict, and all the ramifications, has been ongoing since 2003 and not just now with respect to the current war on terrorist group ISIS. The recent escalation of terrorist incidents has only added to the calamity by using (and abusing) them as young soldiers for ISIS and turning them into lethal beings.

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These conditions not only violate the basic rights of children but are severely detrimental to their health, including in particular their cognitive health and psychological well-being. Because their young brains are being forced to develop in an unsuitable environment, these children are creating a psychosocial frame of mind under cruel and unbearable conditions. Their whole life will be impacted by this experience. The future looks grim.

Efforts to deal with this huge problem are either absent or minimally present, and do not cover the need. First, the concept of psychological first aid coupled with long-term psychological counseling is absent, or if present, other needs such as food and shelter take precedence. Further, adult family members who are needed to help stabilize the children are themselves victims of these conditions and are not in much better shape. They too need psychological assistance. Societies in the region are not used to therapy or counseling: there is still a taboo about psychological and psychiatric illnesses.

Amidst this sad picture there is, however, a glimmer of hope. Throughout the Middle East and indeed among all Mediterranean cultures, family structure is strong—and this is also true in Iraq. Moreover, the extended family is a strong presence in most children's lives and remains even as they become adults. Typically a young person is surrounded by relatives whose role is in general caring and nurturing—but this may be the only positive in this grim picture. Fortunately, I think most children do have strong family connections and it is perhaps the only thing that keeps them going. Of course war also means many children lose their parents or family members—actually we hear such reports in the news—and the fear of losing a family member or seeing them harmed is an additional type of insult on children.

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As a neuroscientist, I have contributed to raising awareness about this topic at science, medical and engineering colleges as well as through seminars directed at government officials. I have also covered the topic in my latest book on education in Iraq (just published in Arabic) in which I devote a chapter discussing the effects of adversity on children and thereby introduce the scientific basis of this issue to the public at large. In these circumstances, our role as scientists has become even more important today, and we have a clear responsibility to move government policy to bring good outcomes to communities and people. At the same time, I am learning about how we can quickly develop training plans for teachers and doctors, and even community members and volunteers to aid in establishing creative ways to help these children.

Politics has led to the destruction of whole generations. It is happening right in front of our eyes. It does not seem to matter what type of political systems there are—children in many countries are suffering and being exposed to dangerous levels of fear and terror that are destructive to their health and well-being in general and are moreover especially dangerous to their developing brains and likely to leave them emotionally and cognitively disabled for many years to come.

Juman Kubba is an Iraqi-American scientist and writer who has lived in the United States for 35 years. She has a PhD from the University of California, Los Angeles (UCLA) where she began her career as a bench researcher and later assistant professor. She has recently worked in Iraq on education reform.

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- Professor Kubba is the author of: *The First Evidence: A Memoir of Life in Iraq Under Saddam Hussein* (McFarland & Company, 2003); re-published in Arabic in 2009 under the name *Shahed Ayan. Meeting the New Iraq: A Memoir of Homecoming and Hope* (McFarland & Company, 2013). *Asr Aldulumat: Education in Iraq post-2003* (published in Arabic, 2017; English translation: *The Age of Darkness: Education in Iraq post-2003*)

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