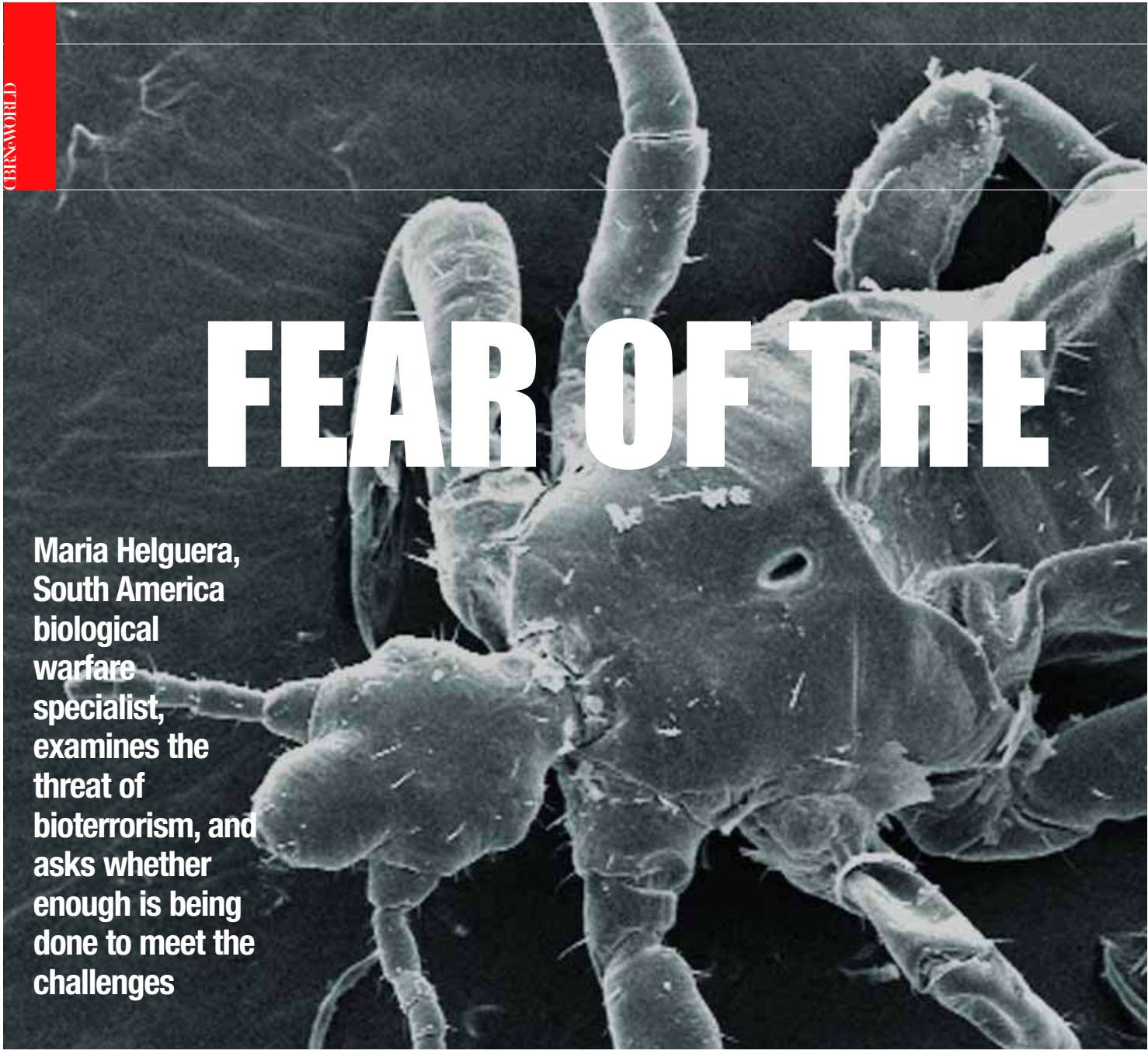


FEAR OF THE

Maria Helguera, South America biological warfare specialist, examines the threat of bioterrorism, and asks whether enough is being done to meet the challenges

IN THE past few years we have witnessed the growing perception of the possibility that a biological attack could occur, especially after 9/11 and the subsequent anthrax incidents. But this phenomenon has no concrete evidence which definitely supports it. The use of biological weapons is as old as human kind, and the difference through the ages could be linked with the technology involved in the agents' development.

We can also consider that the threat perception is fed with two very "human" feelings of our daily life: firstly, the fear of the diseases, and secondly the fear of the unknown and intangible. A biological agent can't be "seen" until is too late, and if we add to those facts the reality that we are living at a historic moment where the rise of a pandemic appears imminent and where the mass media is bombarding us with information and data, the problem gains astronomical dimensions. In this context, it is important to remember that the biological warfare agents are the same pathogens that cause some known diseases, such as anthrax, botulism, cholera, smallpox, and others.

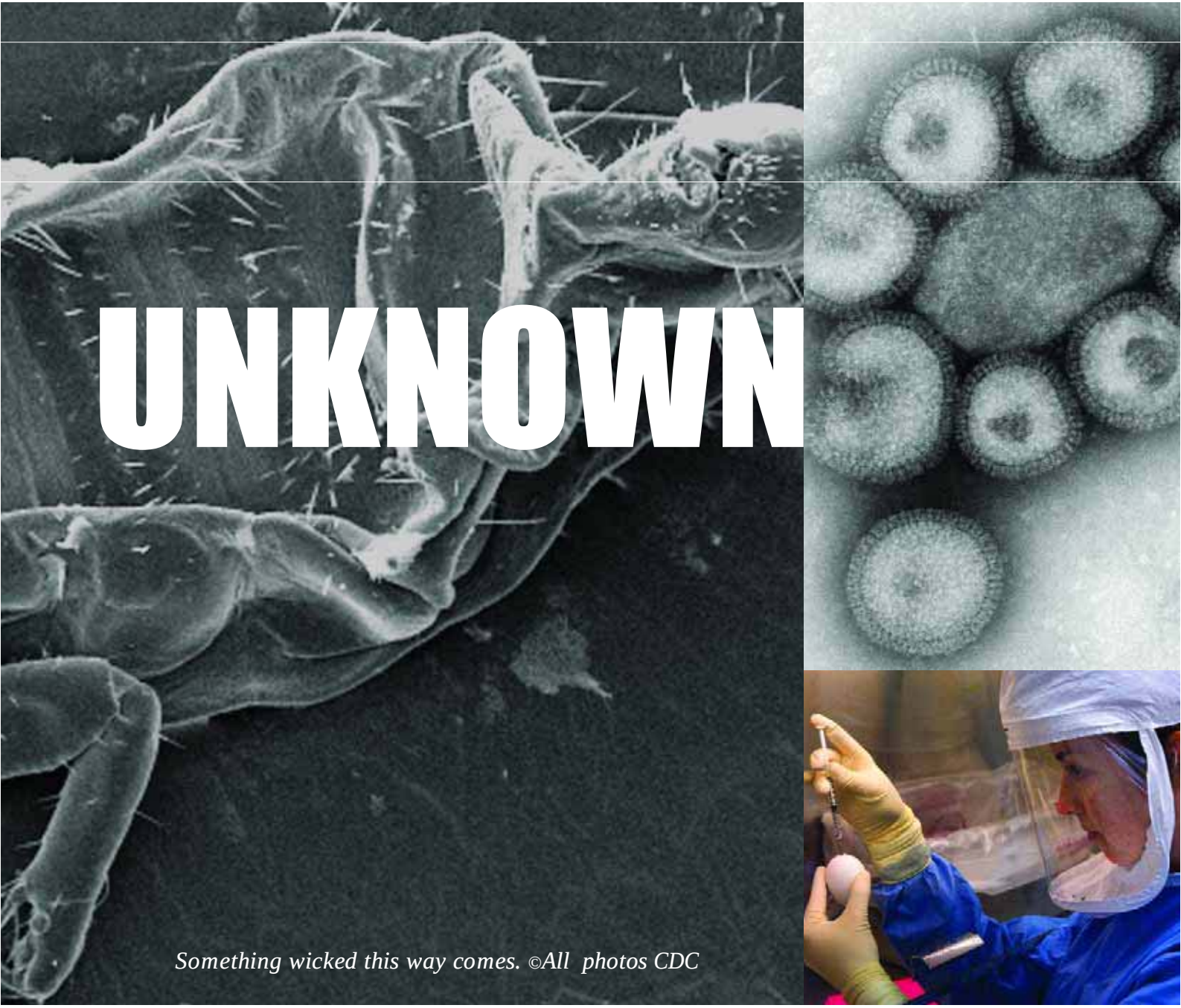
When we assess the possibility of a bioterrorist attack, however, it is possible to say it is inversely related to the likely number of casualties caused by it; the most horrendous attacks are very difficult to perform and therefore unlikely, and a more limited (or conventional) one resulting in few casualties would be easier to carry out. Even though a biological attack could be considered a low probability event (for some experts a very low one), almost all experts agree in that it is a high salience one, with all that this entails.

Biosecurity can be defined as measures that have to be taken to prevent, deter, and protect against the misuse of biotechnology and biological agents for hostile purposes. In order to achieve this, it is almost mandatory for the close co-operation among biologists, national security experts and the industrial sector.

One element which deeply affects the biological threat assessment, and the courses of action selected to afford it, is its high salience. Politicians want to be prepared, or at least look like they are, regardless of the real threat. In order to do that there is a big budget available for projects related to biosecurity in general.

The current situation leads us to consider and create our response programmes based on case scenario studies. The problem element here is that the most well known scenarios are constructed as a combination of the worst-case with the worst-agent, creating the scariest scenario possible, regardless its probability of occurrence.

Other circumstances that constitute the biosecurity issue include the internationalisation of biological



Something wicked this way comes. ©All photos CDC

knowledge; globalisation of the biological material and equipment market; increasing numbers of high containment labs around the world; and growing number of people involved in biosecurity issues.

Biological sciences have grown vertiginously since the 1960s, and their expansion has extended beyond the national borders since then. The same happened with the "material world" in the globalisation of the availability of dual-use materials and equipment, even though the Australia Group members are trying to avoid or delay it.

Regarding labs, more places with high levels of technology mean more places to watch and more people with access; all that could represent more probability of risk. The same could also be applied to the growing number of defence research institutes, conferences and activities related to biosecurity. Another aspect to take into account is that the objectives, topics to deal with and responsibility areas overlap among each other, which entails poor resources exploitation even though they are not a limiting factor of the activities' development.

The last element to take into account is reorganisation – if you don't know what to do, reorganise. The reorganisation of governmental bodies is useful for such simple reasons as giving the feeling that something is being done – even if it doesn't work – both to the general public and to the officers. The only problem is that reorganisation entails a new budget assignment and time.

In summary, when we consider which aspects to prioritise when it comes to biosecurity, public health, education and national security are the critical but not the only ones. It is also important to include in our analysis the dual-use aspects both of technology and materials and knowledge, consider the cost/benefit of the measures that are plausibly to be taken, and to do all this in a long-term framework.

Finally, the proposal of a biosurety approach for preparedness in case of a biological attack appears to be the optimal solution, especially because of its systemic conception.

The current situation is creating new threats as it evolves. The paradox is that new security challenges created by the increasing attention given to the biological threat are generating an environment in which evolution is difficult to assess.

Taking into account the short history of bioterrorism and the challenges which face the so-called bioterrorists in our current health context, which is the real threat? The increasingly deterioration of the environment and the new and emerging (and re-emerging) diseases pose a bigger challenge than a bioterrorist attack. Here the odds are in the healthcare side, and not the terrorist one.