



The "Roll Back Malaria" Campaign

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Despite 50 years of world experience in malaria control, more people are dying of malaria now than when such campaigns began. Gro Harlem Brundtland announced on 13 May 1998 that one of her priorities as director general of the World Health Organization (WHO) is a new effort to "Roll Back Malaria." The intention is to approach malaria in a new way. The greatest emphasis will be on strengthening health services, so that effective treatment and prevention strategies are accessible to all who need them. Roll Back Malaria is not another attempt to eradicate the disease; instead, the aim will be to halve malaria-associated mortality by 2010 and again by 2015. It will not be a separate entity that is "bolted on" to existing health services but will involve and strengthen all malaria-related activities across the health sector. It is not based just on new techniques; instead, it will apply existing tools more effectively, building on experiences of the past—failures and successes alike. It is not simply an ambitious public health initiative; it could also begin to demolish the artificial barriers that have developed between disease control specialists and health systems specialists.

Defining the Campaign

Malaria is associated with poverty. The experiences of the 1950s and '60s have shown that sustainable malaria control must be an element of overall social and economic development. Previous attempts at eradication often disrupted other services and resulted in frustration and loss of morale when they failed.

Roll Back Malaria will draw on up-to-date knowledge about available tools and best practice. In the past, overreliance on one or two interventions, such as DDT, resulted in the rapid emergence of insecticide resistance. There is no one fit-all solution for tackling malaria. Social and biomedical science research will be needed to help adapt basic strategies for health sector action against malaria, so that they respond to people's needs within the limits of the resources available in their societies. More tools—new antimalarial drugs and vaccines—are needed to supplement the gains

that will certainly result from the better use of existing agents.

During the 1970s and '80s, malaria programs operated separately from mainstream health sector activity. They were underfunded and often marginalized. The ultimate aim of the health sector must be to enable all people to live healthier lives and to reduce the extent to which they suffer from illness. If, in a malaria-affected country, the publicly funded health system is not tackling



Sustained benefit for millions. Throughout Africa people's well-being is undermined by Malaria.

malaria, it is not functioning well. Thousands of lives are lost because people do not get to health services at all or because appropriate treatment is not available when they do. Roll Back Malaria will contribute to health sector development and renew the sector's focus on essential health outcomes. It will call the sector to account for ways in which scarce resources and efforts are used. Progress in this area alone is likely to have significant impact on achieving the targets.

Pulling the Strands Together

Much of the potential of malaria research and control efforts has not been achieved, because efforts have been fragmented and have sometimes undermined each other. Over the past 6 years, a series of initiatives to develop a more coherent approach has emerged.

The Revised Global Malaria Strategy (1) was approved in Amsterdam in 1992 by the health ministers of several malarious countries. After pressure from these same health ministers at successive World Health Assemblies, WHO allocated extra funds for malaria (\$10 million between 1996 and 1997 and the same sum again from 1997 to

1998) to help countries develop plans for tackling malaria, training staff, and initiating more effective action.

In 1997, African scientists invited colleagues from other countries to a meeting in Dakar, and this led to the launch of a Multilateral Initiative on Malaria (MIM) (2). Representatives from 37 countries, three non-governmental organizations, and three inter-governmental agencies decided to collaborate for more effective malaria research.

Although malaria is a global issue, 90% of malaria-related deaths occur in Africa. It is a major burden on health services and an impediment to development. In 1996, discussions between the WHO African Regional Office (AFRO), the World Bank, and some nations providing development assistance led to the emergence of plans for a pan-African initiative for malaria control. This has evolved into the African Initiative

on Malaria (3), which should emerge as the spearhead of the global Roll Back Malaria program. Given the importance of new knowledge for effective action, the MIM will provide a vital route through which the scientific community can help nations respond to the scientific challenges of malaria.

In 1997, African leaders, at the annual meeting of the Organization of African Unity, explicitly called for action to control malaria. African health ministers reflected this concern at the annual onchocerciasis meetings in Liverpool,

UK (December 1997), which reflected on the success of 30 years of international partnership to control river blindness. "Why," they asked Clare Short, Britain's secretary of state for International Development, "can't we do the same for malaria?" Although the challenge is bigger and tougher, the British government agreed to propose that malaria feature in discussions among the leaders of the G8 nations in Birmingham, UK, this year. Despite other issues being proposed, malaria remained on the agenda as part of the G8 development focus, because it reflected the priorities of the leaders of poorer (particularly African) countries. The summit discussions, 3 days after Brundtland's election, enabled the leaders of the seven richest countries and Russia (increasingly affected by malaria) to offer strong support for the new WHO initiative. This was backed up by a financial commitment of £60 million by the British government to kick-start the Roll Back Malaria process.

Practical Matters

The new approach will set standards for partnership between the public and private sectors. Over the past few years, new kinds

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of public-private partnerships for malaria action have been explored (4). New possibilities, involving joint action between research-based pharmaceutical companies, the academic sector, and governments, are now being developed. This raises many difficult issues, particularly those relating to intellectual property, that have yet to be addressed.

Within developing countries, the private sector (whether in the form of a licensed medical practitioner, private pharmacy, or traditional healer) is very often the main source of advice and treatment for all people, including the poor. Government health services will need to acknowledge this and develop better ways of working with and regulating the different types of practitioners to provide essential public health services.

Most health-related decisions are made in the home, not in the health center. However, as we all know from our own experience, people do not always choose to live in ways that preserve their health. Often this is because they do not know what is for the best. Even when they do, they may not be able to access the services they need and benefit from them. Roll Back Malaria will have to increase the availability of good-quality information and services. Information and education will not only mean that men and women will make more appropriate choices, it will also create

a climate of expectation that demands improved services.

The Next Steps

Roll Back Malaria will not be a "one-time" project. Sustained effort and financing will be required over the next two decades. It will be a global initiative, adapted to the needs of regions and countries. It will respond to climatic and environmental changes, human migration and displacement, and the development of resistance to antimalarial medication and insecticides. It will do this from within the health sector but will recognize that in practice many people get the health care they need in the home, from private (rather than public) services. The details of the initiative have yet to be determined.

Over the next few months, Brundtland and her team will develop the mechanisms that will allow WHO to work effectively with other partners in the Roll Back Malaria initiative. She will find ways to reinforce the links between the several WHO programs that focus on malaria and between WHO activity at headquarters, regional, and national levels. This united WHO should be a good candidate to lead a partnership of national governments, multilateral agencies (such as UNICEF), development banks (particularly the World Bank), providers of bilateral assistance (such as the United Kingdom, the United States,

and Japan), the international research community, and private sector companies.

Getting these systems right and developing the capacity to implement effective action will be crucial, and it will inevitably take time. There will not be much new activity on the ground within the next few months. Activities will be apparent from next year onward, building on what has been done before and developing new approaches to the provision of health services. This will revolutionize malaria control and set the direction for more integrated health action in other priority areas, such as tuberculosis and safe motherhood.

Rolling back malaria is not going to be easy. The aspiration of halving malaria deaths by 2010 and halving them again by 2015 will not be achieved without sustained and broad-based commitment. However, the potential is there, and if the scientific and technical inputs can be channeled through effective health systems and supported by adequate finances and political commitment, the benefits for the poor of the world will be enormous.

References

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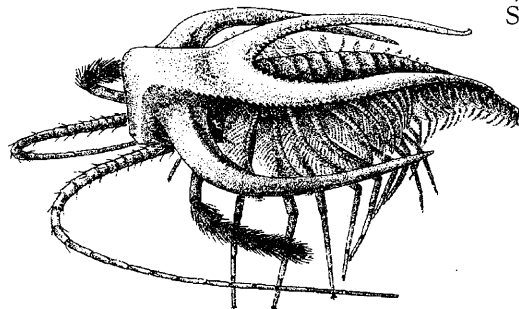
BOOKS: EVOLUTIONARY BIOLOGY

Contingency and Convergence

Mike Foote

The Crucible of Creation. The Burgess Shale and the Rise of Animals. SIMON CONWAY MORRIS. Oxford University Press, Oxford, 1998. xxxiv, 242 pp., illus. \$30. ISBN 0-19-850256-7.

Which features of the history of life are (practically speaking) inevitable, which are highly contingent, and how can we know the difference? The eternal discussion of chance and necessity has found a new focus in the evolutionary implications of the Cambrian Explosion, the burst of animal disparity (that is, the variety of anatomical designs) that occurred over the span of just a few million years, some half billion years ago. Analysis of this diversification has largely centered on the fossil faunas captured in the famous Burgess Shale and related deposits. According to the view promoted by Stephen Jay Gould



First found. The first sketch of the primitive arthropod *Marrella splendens*, the most abundant animal from the Burgess Shale, appeared in Charles Walcott's field notes for 31 August 1909, recording the discovery of this soft-bodied fauna.

(1), chance elements may have been so important that the survivors of this initial radiation—and therefore the long-term course of subsequent biotic evolution—could not have been predicted by a Cambrian observer, even a very smart or knowing one. It is probable that certain general products of evolution are essentially predictable (say, the exist-

ence of carnivores that harvest lower-level consumers), while the particular details (say, predatory snails such as *Conus* species that stun their prey with toxins) rely on a string of unique historical events (2).

Some of these events are extrinsic to the lineages involved (the catastrophic extinction of a competitor, for example), while some are intrinsic (preadaptations, the prior evolution of organs that are later modified or co-opted).

Simon Conway Morris, who has expertly studied Cambrian faunas for over 25 years, gives excellent overviews of the anatomy and ecology of the Burgess Shale animals, the faunas of other Burgess-like deposits, and the resolution of some morphological and genealogical puzzles. Amidst these discussions lies a perspective on the importance of evolutionary contingency that differs from that of Gould.

Gould's emphasis on the contingent partly reflects a theme found in many of his writings, that culturally laden ideas—such as progress, the scale of nature, and the primacy of humans at the pinnacle of that scale—have stifled our understanding of evolution. But his emphasis also reflects recent developments in paleobiological research, such as the



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