"First-Aid Community Training" (F.A.C.T.) scheme has been floated to teach the general public correct attitudes towards safety in daily life. This scheme should reduce the number of accidents, and save the country millions of pounds.

It is surely an intriguing paradox that in an expanding environment of state medical services a private army of trained unpaid volunteers should be flourishing. The medical profession

is the invaluable catalyst between the two systems—both working in the interests of mankind. The stirring story of the oldest active order of chivalry in Christendom, an organization trained by doctors to implement the work of doctors, contains many glorious pages; one hopes that with the continuing much appreciated support of the medical profession and of many people in many lands, yet more glorious pages will be written in the future.

Digressions around a Medal

G. GRAMICCIA

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I bought the medal illustrated opposite because it was ingeniously attractive; a good portrait of Napoleon "empereur et roi" on the one face, and on the other a robust Aesculapius with the staff and the snake holding a naked Venus with a protective arm, a pathetic little cow on the left, and on the right a "stylet" and an ampoule containing presumably "la vaccina." But why the date MDCCCIV? What happened in that year to justify the striking of the medal?

Finding out led me to go through a number of old books—the history of smallpox, variolation, vaccination . . . As everybody knows it was an old practice in the East, from China to Turkey, to inoculate smallpox by putting material from the pustule of a sick person on to the skin of a healthy one, because it had been observed that the smallpox thus produced in the recipient was less severe and protected him for life against the risk of disfigurement or death, which occurred in almost 60-70% of natural infections. After all, as late as 1950 I saw in Iran the same method being followed for the protection from disfigurement of the face caused by another disease, cutaneous leishmaniasis or tropical sore, by producing the infection through inoculation in a part of the body other than the face, where the natural sore normally occurs.

"Variolation"—this is what the artificial infection with smallpox virus is called—was introduced into England in 1721 by Lady Mary Wortley Montagu, wife of the British ambassador to the Court of Constantinople, and met with great success. The procedure was not without risk, 1-2% of the variolated persons dying as a result of the infection. This risk, however, was far inferior to that of the natural disease, which according to the Bills of Health for the City of London from 1700 to 1800 was responsible every year for between 5% and 13% of deaths from all causes. In France in 1754 one in every 10 deaths was due to this infection, and one out of four persons was either killed by it or disfigured for life. The people who were "variolated," however, became a source of natural infection for others. The individual protection was thus a threat to society. As there was nothing better, variolation was rapidly and widely accepted in medical circles even though, for patriotic reasons, some in France objected to the introduction of a method that, in Europe, had first been developed in England. I was delighted to find during my search the following poem by Voltaire, addressed to Dr. Tronchin and the Duke of Orleans on the occasion of the variolation of the Duke's children by Tronchin in 1756.

Il est des préjugés utiles,
Il en est de bien dangereux;
Il fallait, pour triompher d'eux,
Un père, un héros courageux,
Secondé de vos mains habiles.
Autrefois à ma nation
J'osai parler dans mon jeune âge
De cette inoculation
Dont, grâce à vous, on fait usage.
On la traita de vision;

On la reçut avec outrage,
 Tout ainsi que l'attraction
 J'étais un trop faible interprète
 De ce vrai qu'on prit pour erreur,
 Et, je n'ai jamais eu l'honneur,
 De passer chez moi pour prophète.
 Comment recevoir, disait-on,
 Des vérités de l'Angleterre!
 Peut-il se trouver rien de bon
 Chez des gens qui nous font la guerre
 Français, il fallait consulter
 Ces Anglais qu'il vous faut combattre
 Rougit-on de les imiter,
 Quand on a si bien su les battre?
 Également à tous les yeux
 Le dieu du jour doit sa carrière;
 La vérité doit sa lumière
 A tous les temps, à tous les lieux.
 Recevons sa clarté chérie,
 Et, sans songer quelle est la main
 Qui la présente au genre humain,
 Que l'univers soit sa patrie.*

All this was, of course, long before the facts that justified the striking of my medal. It was only in 1796 that Jenner made his first observation on the nature of the cowpox lesions he saw on the hands of a milkmaid in Gloucestershire. He inoculated the pus from one of the pustules into the arm of young James Phipps, which gave rise to the benign local development of a cowpox infection that disappeared within a couple of weeks. A little over one year afterwards he inoculated the same boy with pus from a smallpox case, and the disease did not develop. In 1798 Jenner published, at his own expense, his famous pamphlet *An Inquiry into the Cause and Effect of Variolae Vaccinae*.

The basis for the final solution of the smallpox problem was there, and this time without risk either to the person or to the community. Clearly Napoleon, anxious for the health of his people and above all of his soldiers, could not remain indifferent to this great discovery which, interestingly enough, broke through a number of political barriers of the day. The Duke de la Rochefoucauld-Liancourt, who had taken refuge in England from the French Revolution, returned to France in 1800 and became an apostle of the English discovery, the result of which he had witnessed. It was from Paris that the method of vaccination spread to Rotterdam, Genoa, Brunswick, Kiel, Berlin, Madrid, Sweden . . . through doctors who had come to see the effect of the vaccine in Paris; and from Spain, through Dom Balms, surgeon to King Charles IV of Spain, it spread to the Canaries, the Antilles, Mexico and Guatemala, South America the Philippines, and China. For those long distances the only way of keeping the vaccine alive and effective was to embark on a boat a number of children sufficient to permit a series of successive vaccinations by contact between one child, as soon as cowpox developed, and the next, so that on arrival there would

*A recognition of Voltaire's "universality" of outlook in such matters is the letter that Catherine the Great wrote to him in 1768 about the smallpox problem in St. Petersburg. Voltaire advised her to undergo variolation, and she duly summoned Dr. Thomas Dimsdale from England to perform this operation on herself and some of her subjects. For this she made Dimsdale a baron and gave him £12,000 outright, with a life pension of £500.

be one with an active cowpox pustule for use in spreading the vaccine. Twenty-two children were used for taking the vaccine from Corunna (Spain) to South America, and 26 more to carry it from there to the Philippines and China.

In France a special Hospice for the Inoculation of Vaccine was inaugurated on 7 February 1801 by Frochot, prefect of the Seine Department; and Chaptal, minister of internal affairs, gave instructions to the prefects for the execution of the imperial decrees of 4 April 1804 on the vaccine. The following year the Emperor ordered the vaccination of all his soldiers. So here we have the explanation of the medal, which must have been struck to mark the orders of 1804—that is, those for the general population rather than those of the following year for the soldiers, since if the latter had been the case Aesculapius would not have wound his protective arm around the supple shoulders of Venus but around the muscular ones of Mars.

We should not, however, forget the situation between France and England at that time, and the last digression I shall bother you with, to match the poem by Voltaire, is the letter written by Jenner himself to Napoleon in 1813, at a crucial moment of the blockade of Europe:

Sire,

My Relation Mr. Milman, Captain of Infantry in the service of His Britannic Majesty, is detained as a Prisoner of War at Verdun. May I presume to implore your Majesty to grant him the great favour of being permitted to return to England? Vaccination, of which I have been the fortunate Discoverer, and for which Invention I have lately been pronounc'd by your Minister *one of the greatest Benefactors of Mankind*, has been practic'd no less to the great increase of the population of your Empire than to the preservation of the valuable life of your Son, the Heir to it.

I humbly presume, Sire, on these considerations to solicit the liberty of one Individual, whose restoration to his Family by your Majesty's indulgence will be deem'd a favour which no Time will efface from the memory of

Sire
 Your Majesty's
 most obedient
 and
 most humble
 Servant
 EDWARD JENNER

Berkeley
 Gloucestershire
 December 11th 1813

The Emperor acquiesced.

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