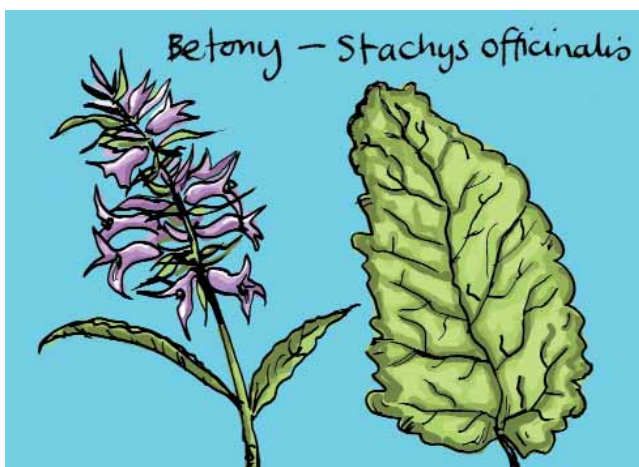


Betony: more than a wound application

In Britain there are five species of woundwort (*Stachys*), all flowering at about the same time in July — betony, distributed along hedgerows and the edges of fields; the marsh woundwort, at the side of streams; the hedge woundwort; the corn woundwort; and the downy woundwort, the latter being a doubtful native. As the common name suggests, all have been adopted in folk medicine as applications for injuries by sharp objects.

Roy Vickery has suggested in his 'Dictionary of plant lore' (1995) that, in spite of its scientific name of *Stachys officinalis*, there is little evidence that betony has been widely adopted in British and Irish folk medicine, except by gypsies who have long administered infusions of its leaves to relieve stomach disorders and applied ointments of its juice with lard to painful insect stings.

Robert James, in his 'Pharmacopoeia Universalis' (1747), writes that the leaves "have a herby taste", are salty and aromatic and do not



turn litmus paper red. The flowers and roots are bitter, aperitive and diuretic as well as being good for diseases of the brain and lower body. He recommends a tea made from the leaves for sciatica, gout, headache, jaundice and palsy. The roots are purgative and emetic, and a plaster made from the leaves can be applied to wounds, particularly of the head.

Wood betony, held in high repute among the Greeks and medieval physicians, featured in a treatise by Antonius Musa, physician to the emperor Augustus. Later it was cultivated in physic gardens attached to monastic establishments.

Even today the location of such establishments is revealed by the survival of betony among ruins. Moreover, the plant was supposed to exert a protective influence against evil spirits and was woven into garlands worn around the neck. The dried leaves were smoked like tobacco, and fresh ones were used to dye wool yellow.

Has our willingness to help others evolved as a result of punishment?

There is a common philosophy abroad, encouraged by our social agencies, that in any attempt to regulate our environment we face the choice of offering the proverbial carrot or the equally proverbial stick to anyone crossing our path.

From our relationship with our pets to that with our children this choice presents itself. Either we good humouredly offer the bribe of a biscuit or an ice cream or, under stress, we upbraid or even attack.

Contributors to the 23 June issue of *Science* have made important contributions to the argument. "A hallmark of humanity" writes one, "is that people help one another — not just relatives and friends, but even

complete strangers." Such conduct forms the scaffolding of large-scale co-operation in human societies, although precisely how and why is not clear. Most research into the interaction has been carried out in university students, but it is agreed that it takes place even in primitive societies.

Research by anthropologists in Atlanta, Georgia, has concluded that such helpful behaviour may have arisen as a result of punishment. Altruism has evolved hand in hand with a willingness to punish selfish behaviour. For tens of thousands of years before the disciplinary structures so prominent in civilised societies arose, humans co-operated in domains such as hunting, trade, food sharing and

even war. Costly punishments for those who violated the norm were enforced. Results from games designed to utilise reward and punishment have shown that highly diverse populations in diverse cultures are subject to much the same notions of the role of punishment, although its magnitude varies widely from place to place.

It is relevant to our modern culture that we learn to apply ideas regarding responsibility and the ability of individuals to reform many antisocial tendencies to our penal culture. We cannot continue to think in terms of "short sharp shocks" but must take into account individual characteristics when we encounter antisocial behaviour.

Germany works to establish a sound policy for the future of science

An interesting editorial contributed to the 14 July issue of *Science* by no less a person than Angela Merkel, the Chancellor of Germany, sets out the skeleton of a science policy for 2006 onwards.

The German government recognises that the nation's future lies in a knowledge-based society based on freedom and responsibility, says Dr Merkel. She states: "This is what will enable Germany to rise to the challenges of today's world, be they national or global, or economic, social or ecological in nature. That is why the promotion of science, research and innovation is one of my top priorities".

Dr Merkel wants to offer German science and research conditions that rival the best in

the world, the benchmarks being excellence, internationality and freedom.

The government is working hard to make German higher education more international, because excellence today is defined in global terms. Higher education and research institutions need to expand their international links, and the government is committed to strengthening co-operation throughout Europe.

There are plans to give science and research a freer hand and to create conditions in which they can flourish and provide the right kind of stimulus. Universities and research institutions must be given more independence, with greater freedom to choose their students and staff, develop their

own profiles, co-operate with industry and spend their funds as they see fit.

There should be intensified dialogue between policy makers, scientists and industry on all aspects of science and technology policy, particularly crucial in fields where new scientific advances may raise difficult ethical issues.

A Council for Innovation and Growth has been established, bringing together prominent representatives of the scientific, business and political communities. At a European level, strong support is offered to the notion of establishing a European Research Council to advise and comment on research and policy decisions affecting the European Union.