

The path to productive partnerships

Research funders and institutions do too little to sustain the collaborations that they encourage.

A rich culture of collaboration is one of the valued treasures of the scientific community, and deservedly so. It is only natural that universities and funding agencies would want to encourage this approach. It is a shame that their support is only skin-deep.

Many funders have designed programmes that specifically encourage interdisciplinary or international collaborations. Such programmes can enhance funding for collaborations that do not fit easily into traditional grant programmes. More worrying are the initiatives that attempt social engineering, demanding that scientists include researchers from, say, a particular region in their funding application. As a result, efforts are wasted in collaborations that are motivated more by the funds themselves than by scientific necessity.

But most concerning of all is the fact that merely funding a culture of collaboration does too little to make it robust. More support by agencies, and foresight by researchers themselves, needs to be devoted to anticipating and coping with the traps that can lie ahead.

Financial incentives will not teach collaborators how to work as a team. Interdisciplinary endeavours by definition bring together researchers from diverse scientific cultures, with respective languages and priorities. Computer scientists, for instance, may think nothing of making their data freely available on the Internet. But in highly competitive biomedical fields, in which whispers heard at meetings can quickly be turned into papers bearing the eavesdroppers' names, sharing too soon can have unintended consequences.

Meanwhile, crossing political borders carries the risk of complications that can befuddle expert regulators, let alone inexperienced researchers. The rules regarding ownership of intellectual property vary from country to country, as do ethical regulations on experiments involving humans or animals. And when cases of misconduct arise, it is unclear which country or regulatory authority has jurisdiction (see page 686).

These difficulties are not limited to large-scale, high-budget projects, yet researchers too often enter into the complex landscape of collaboration with little, if any, thought about the complications that can arise — even from a small-scale alliance (for examples, see page 682). The culture of informal collaboration feeds scientific innovation and productivity, but it must be balanced by good planning. Wise collaborators will map out their endeavours and responsibilities early in the relationship, keeping a written record of their agreement. These plans need not be limiting; they can and should be amended as the project progresses.

Meanwhile, an early conversation about data ownership and authorship can prevent the hostility that may arise when such issues are disputed later in the relationship. This discussion should include, from day one, any proposed industrial contacts and contracts. When publication of the results is the goal, reagents, methods and data used and developed during the collaboration need to be kept accessible to the researchers, even if licensed to a second party. Without a written agreement, access to these reagents cannot be ensured.

But expecting researchers themselves to invent such principles from scratch is a recipe for wasted effort. What is more, when researchers fall out, the burden of clearing up the mess can fall heavily on their institutions. Thus the institutions, and funding agencies too, should support collaborations not only with facilities and funds but also through logistical support in the form of guidelines, checklists, model agreements and training — or even counselling, if it should come to that. In that way they can help researchers and themselves avoid the pain, and benefit from the pleasures and insights that collaboration should bring. ■

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Defining 'natural'

Visceral reactions to an act should not distract from the real ethical issues.

From an evolutionary perspective, we humans have good reason to be wary of things that seem to be 'unnatural'. Anything out of the ordinary can be dangerous. But the evolutionary origin of that response also guarantees that it will be guided more by emotion than by reason. Witness the reaction last week when Thomas Beatie, from Bend, Oregon, announced his pregnancy on the popular television talk show, *Oprah*.

Beatie, who was born female (and participated in beauty pageants), underwent hormone treatment and some gender-reassignment surgery ten years ago, but retained his reproductive organs. He stopped

taking hormones so that he and his wife, who cannot bear children, could pursue artificial insemination. Several doctors turned them down, but last week, the world watched as a baby-faced man with a thin beard and a growing paunch went for an ultrasound: the fetus was a girl. Oprah Winfrey was supportive as she nursed the nervous Beatie through a discussion of his personal realizations. So was the lesbian, gay, bisexual and transgender community. But other reactions were vitriolic, as when MSNBC's Joe Scarborough repeatedly commented that he was "going to be sick". Other such visceral responses were common on message boards and blogs on the Internet, where the situation was often held to be disgusting and unnatural.

And yet, when we consider this story with the reasoning parts of our brains, exactly what was so 'unnatural'? The longing to have a baby? That is a profoundly human desire, whether the prospective parents are male, female or transgendered. Or is it that Beatie has acted on his certainty that he is a man who happened to be born with-