Is there a future for (printed) scientific journals?

Google this question today and you will get 281 million results returned in 0.22 seconds. That is today's result; tomorrow there may be millions of hits more to consult. Not so long ago, nobody would have understood the phrase to "*Google a question*". How long ago was that?

The future of scientific literature (in print or overall) has been questioned time and again, but in recent decades it has become an ongoing debate. A document published in the 1960s discussed issues in this context such as "*too much and not good enough*", and "*too little and too late*" (Brown et al. 1967). If we were to discuss the tsunami of publications currently available on the internet, issues like '*too much*' and '*not good enough*' would certainly still be on the agenda. However, we are no longer *too late',* we rather report, respond, publish, or react too quickly, often even without proper thought. We *twitter.*

This is an odd opening for an editorial of a scientific journal. However, as editors of *Lutra*, we often wonder why it is increasingly hard to fill a journal twice a year with good papers. One internet article, found with the web-browser, presents some interesting historical 'facts': *"The first scientific journal saw the light in 1665: the Philosophical Transactions of the Royal Society of London. Before that, scientists shared their findings in scientific meetings or in letters."* These facts may be correct, they could also be wrong. Today's scholars must find it difficult to separate facts from fairy tales and if a web site or a '*webbed article*' looks authoritative, people tend to believe what has been written there. For centuries printed scientific articles have been fundamental for the exchange of scientific knowledge. To exchange scientific facts, scientists would gather in meetings and they would publish their findings in books and later in journals. Scientific journals. The publication of an article meant that it had achieved some minimum quality standard, safeguarded by dedicated referees and editors. In a scientific institute or university, researchers would visit their library weekly, leafing through pages of the just published journals in order to stay informed.

When *Lutra* was launched, some 60 odd years ago, as a means of communication, journals like *Lutra* were more or less the only way for biologists to publish their results and to read those of others. Readers, writers and editors were a mix of professional scientists, students and amateur biologists. Today, there are numerous publication outlets, but few with the quality stamp that journals such as *Lutra* provide. The peer-review process is critical in providing credible scientific research. Given the gradual increase in the number of biologists over the years (students, professionals and amateurs), one might expect more and more submissions to *Lutra*. Yet, as with many

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similar scientific journals in recent years, the editors of *Lutra* face a consistent shortage of suitable material to publish. Is this because professional scientists are now constantly pushed to publish in high-ranking journals? Is this because amateurs feel intimidated by the peer-review process, by the English language or both? Journals such as *Lutra* also have increasing difficulty in attracting regular subscribers; a trend that seems to be at odds with the increasing number of people who are, at least broadly, interested in nature.

Lutra publishes peer-reviewed results of competent scientific studies that enhance our knowledge about the ecology, biogeography, behaviour and morphology of European mammals. It is a place where knowledge is stored safely and papers can be easily found and be cited by future researchers. Let us assume you wish to learn something about the distribution of white-toothed shrews….what would you have done 20 years ago and what would you do now? "Modern" biologists in 2012, professional and amateurs alike, would fire up *Google* (or *Google Scholar* for that matter) and enter some key words. Rather than finding the article of Jan Piet Bekker published in *Lutra* just over a year ago, it is quite likely that he or she would be more than satisfied with the 1350 hits in 0.05 seconds provided by *Google Scholar* or with the 164,000 hits provided in 0.32 seconds by *Google*. This is the *search* for information. I will not discuss the quality of information on the web with that provided in established journals. Obviously, there's a lot of garbage on the web. But there is a lot of useful information also, and the new generation will browse the web rather than visit a library whether we like it or not. Journals like *Lutra* will need to position themselves well online, otherwise they will be increasingly overlooked.

But what about reporting results from studies on European mammals in journals like *Lutra*? Writing an acceptable paper for *Lutra* is not that difficult and the editors are always prepared to provide support and advice to inexperienced authors. Today we have numerous consultancies collecting data, some of which is really interesting, and producing an endless stream of reports. Why do so few of these studies ever reach the peer review process? One could wonder if the currently almost unlimited possibilities to communicate and to post texts and reports on the internet prevents people from sitting down and draft a serious paper. The internet offers a wealth of possibilities for exchanging information about recent sightings. Identification issues can also be excellently covered by online manuals or websites. Basic information about species can be found in online encyclopaedias like Wikipedia, the quality of which is improving every day. *Lutra*'s niche, however, in which concise papers are published with well-analysed and peer-reviewed results on the biology of European mammals, is seemingly unaffected. The question why so few biologists wish to publish their results in journals like *Lutra* today is therefore not so easy to answer.

For subscribing members, *Lutra* should be seen as one of the crown jewels of the Dutch Mammal Society (*Zoogdiervereniging*). Worldwide there are few such organisations capable of issuing a serious scientific journal. For members it should be comforting to know that within The Netherlands biological studies are brought onto that next level, and that serious considerations are made of causes and effects of observed ecological trends and patterns. Published papers also serve as examples showing how a study can be performed and completed. The published papers lead to new ideas and will generate deeper interest in the wildlife around us. Even better, published papers may trigger new studies to enhance our collective knowledge.

The scientific landscape is rapidly changing and the online opportunities to store, process, publish and read data are truly unlimited. We cannot foresee how information will be pro-

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cessed in five or ten years time from now, given that the way we work today could not be imagined just five or ten years ago. Will articles still need to be published in journals, if these journals are increasingly only published and used online? Leafing through a printed issue is quickly becoming something of the past. We will browse our way ahead with a mouse click (oh no, that's old fashioned, … with a finger tip on the touchscreen!). We cannot step aside from the discussion of *how* to publish serious material in future. However, while looking ahead it is important to safeguard valuable assets from the past: a serious, citable publication platform is one of these assets. To keep this platform, we need dedicated editors and readers, and also writers. We therefore welcome contributions to our journal: it is also your responsibility to safeguard a proper exchange of information about European mammals for the future.

Kees Camphuysen

Brown W.S., J.R. Pierce & J.F. Traub 1967. The future of scientific journals. Bell Telephone Laboratories, Incorporated Murray Hill, New Jersey, USA.

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