

“A dangerous visionary”? The Lectures of the Evolutionist T.J. Parker

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Education, information and entertainment: three qualities that marked a good exposition but which were difficult to keep balanced in equal measure, especially before the experienced listeners of late nineteenth-century audiences. The balance was particularly difficult for those lecturers who tackled evolution, a slippery concept open to misunderstanding, incomprehension and plain disbelief. Thomas Jeffery Parker (1850–1897) was one of the first generation of fully trained biologists for whom evolution was the fundamental guiding principle that gave meaning to their scientific studies. This paper investigates the efforts of Parker as he lectured on the subject to a variety of audiences. It explains his motivation and formative influences in the context of other rational entertainment on offer in Dunedin, but concentrates on his performance. Parker adjusted his performance according to the audience before him as he maintained a balance not only between education, information and entertainment, but also between the poor reputation of many “popular” lectures and the serious nature of his didactic zoology.

Parker, the first Professor of Biology at the University of Otago, stated his views on evolution in his inaugural professorial lecture: “with the publication of the *Origin of Species*, in 1859, a better day dawned for biology,” he said. He delivered this lecture to a large audience assembled in the library at the opening session of the university in May 1881. He continued, “evolution has taken its legitimate place as the central doctrine of biology, ... [and] with the doctrine of descent as a standpoint, problem after problem yields to patient investigation.”¹ Parker spoke from personal experience: he patiently investigated “the anatomical and morphological problems ... that zoology posed,” as he phrased it.² This inaugural lecture established Parker as an out-and-out evolutionist and he was absolutely convinced of the truth of Darwin’s claims. He asserted that “there is now not a single naturalist of any repute, under the age of sixty, who is not also an evolutionist,” and continued that “even among the non-scientific public, opinion has undergone a wonderful and rapid change. An evolutionist is no longer looked upon as a dangerous visionary.” Fighting words. Some years earlier during 1876–1877, the Dunedin community had become deeply divided over the issues surrounding evolution and religious beliefs. Historian John Stenhouse has described how the local Young Men’s Christian Association “blew apart over evolution,” but explains that the contributory factors of sectarianism, politics, personality, and ethnicity were as important in informing the debates as the supposed battle between science and religion. Well before Parker’s arrival in New Zealand the public debates culminated in a lecture series, organized by the Otago Institute, which were well reported and discussed in the local newspapers.³

During the main part of his inaugural lecture Parker gave details of his approach to teaching the study of biology, his philosophy, and the methods that he was going to adopt—it was a virtual lesson plan. The whole lecture lasted for almost an hour and a half but the contentious short introduction took only about seven or eight minutes to deliver. It contained emphatic declarations:

It would be superfluous, for me to make any attempt to repeat the arguments which go to show that the animals and plants living on the earth at any period of its history are the lineal descendants of those which existed during the preceding period, and that the origin of any living thing by direct creation is, in the first place, entirely unsupported by evidence, and, in the second place, unthinkable.⁴

These bold statements from a newcomer to the colony produced a flurry of comment in the papers, both supportive and critical, but it is not my intention to analyze this here. Suffice to say, objections were concerned with the “cool manner in which some moot points were boldly presented,” suggesting it was the tone that Parker adopted which was upsetting rather than the factual content. I aim to follow Parker’s lead when he said “something more than a bare statement of belief in evolution” is required, and will look at some examples of the way in which he used the podium to inform various lay audiences on the subject, placing it in the context of other rational scientific lectures being presented in Dunedin.⁵

But first, who was this newly appointed professor of biology? T.J. Parker arrived in Dunedin in 1880, having spent eight years working in London as demonstrator for Thomas Henry Huxley (1825–1895), who is best known as “Darwin’s Bulldog” and as a canvasser for scientific education. During this period Parker witnessed Huxley’s command of the platform. According to Parker, Huxley’s lectures “were luminously clear, ... eloquent, ... and lightened by occasional epigrams or flashes of caustic humour.” Significantly, the young acolyte saw how carefully Huxley prepared material for each lecture: “He would prune and re-cast until somehow it came right, and word and phrase truly represented his meaning and tallied with fact.” During Parker’s apprenticeship he learnt to give “as much thought and research to an audience of clerks and mechanics as he would have given to one composed of the most distinguished men of science.”⁶ Thoroughly imbued with Huxley’s methods of teaching and lecturing, Parker set out to carve a niche for himself at the bottom of the world and to promulgate his evolutionary-based biology.

Huxley’s platform technique was second to none, and in a lecture given to an audience of working men entitled “A Piece of Chalk” he was on good form. In this object lesson he spoke about the nature of the foraminiferan creatures whose remains formed the stick of chalk he used to draw upon the blackboard. He let “the chalk tell its own story”: how the sediment was laid down under the sea; how the physical changes “from sea to land and from land to sea” were mirrored by similar changes in biological forms. And, importantly, how the chalk deposits of Europe were formed long before the evidence of man’s activities in strata above, long before the biblical evidence of the origin of Adam and Eve found in present-day riverine deposits of the Tigris and Euphrates. Stylistically the lecture comprised an introduction, a series of facts, a suggested explanation and finally an invitation to the men to reach their own verdict: “Choose your own hypothesis: I have chosen mine,” Huxley said.⁷ It was, as historian David Knight assesses, a masterpiece of edification without mystification.⁸ The evidence presented by Huxley has survived in published volumes that he edited—a significant afterlife for his lectures. Some of Parker’s lectures also survive as edited essays in journals or as specially printed pamphlets. Mostly, however, more or less verbatim reports appeared in the colonial press and these formed part of the infrastructure of intellectual life, as Tony Ballantyne has suggested.⁹ Whilst newspaper coverage may have been more extensive than in Britain, it would be a mistake to believe reports were always comprehensive. Parker warned, “as a rule the reports are extremely meager ... [and] ... most of the discussions which occur ... are just as well forgotten”—a typically self-effacing comment.¹⁰ The effort involved in the preparation of lectures, which may have taken up to “a fortnight’s labour,” showed that Parker and his confrères wanted to preserve them in printed form.¹¹ None of the printed sources, however, can tell us much about the impact that the performance had upon the audience. The sights and sensations are obviously not captured on the static page.

Parker’s time was split equally between teaching duties at the university and curatorial duties at the Otago University Museum. He took both responsibilities seriously, which left him little time to prepare and deliver many lectures. However, like his mentor, he made each one count. Some were clearly concerned with evolution: the inaugural professorial lecture

discussed above stated his evolutionary views; one entitled “On the Ancestry of Birds & Reptiles” (1881) given to the University Debating Society, and another, “Charles Darwin,” which he gave to commemorate Darwin’s life in 1882, overtly dealt with evolution.¹² Others that Parker gave are not so obviously connected to evolution: “Fermentation & Putrefaction” (1882) for the Otago Institute, “Bacteria” (1884) for the Oamaru Athenaeum & Mechanic’s Institute Library Fund, “Octopus” (1885) for both the Wesleyan Literary & Debating Society and the Congregational Mutual Improvement Society, and “Peculiarities in Form and Colour in Animals” (1895) for the Dunedin Field Naturalists’ Club, a modified version of “Colour in Animals: A Study in Evolution” (1891), which he gave in aid of the building fund of the Technical Classes Association.¹³ The last allowed him to consider Darwin’s thesis, from *The Descent of Man* (1871), of the roles that differing male and female forms played in the choice of mate and the pressure of sexual selection as a force for evolution.¹⁴

Dunedin audiences were assured that Parker knew his subject because he was appointed professor with appropriate and tested credentials. Moreover, he claimed as much himself: “great changes have taken place ... in biology, of which science alone I am competent to speak.”¹⁵ But the authority with which Parker spoke on evolutionary matters also came from an established track record of scientific papers, published both in New Zealand- and London-based scientific journals, which was the result of patient first-hand practical investigations. In 1888, overseas acknowledgement of his achievements came with his election as Fellow of the Royal Society, for work carried out “amongst a strange fauna.”¹⁶ Local pride knows few boundaries and Parker’s knowledge was appreciated in the colony. One teacher observed at the time of his death that “Parker was one of the most prominent biologists in the Empire,” whilst another local reviewer noted on an earlier occasion: “It is very pleasing to us, and, we feel sure, to the public of Otago, to see that the scientific labours of one of our professors is appreciated at Home.”¹⁷ His serious approach to his chosen specialized field of study and to the platform was obvious to all.

The influence of Huxley on Parker’s choice of subjects should not be underestimated and in his lecture “On the Ancestry of Birds & Reptiles” (1881) he made frequent references to Huxley’s work with the two groups, declaring that “birds were the more highly developed of the two, and were descended from the inferior family of reptiles.”¹⁸ Huxley had delivered a course of six lectures to working men in March 1876 on “The Origin of Vertebrates,” the fifth of which dealt with the relationship between reptiles and birds; these were published in *Nature*, the weekly magazine of science, and were available to Parker. As evidence for the relationship between birds and reptiles both men cited the fossil *Archaeopteryx* that possessed both reptilian skeletal features and bird-like feathers in the one specimen.¹⁹ To conclude his lecture Parker maintained “people were not bound to accept the doctrine of Evolution ... they were perfectly justified in not making up their minds ... [but they] should make some study of the evidence before deciding.”²⁰ This rhetorical flourish was similar to Huxley’s exhortation in his “A Piece of Chalk” lecture for the audience to “choose their own hypothesis,” if not quite so direct an appeal. However, they could not have studied the evidence provided by *Archaeopteryx* for themselves, as Parker did not acquire a cast of the fossil for the museum until 1885, a few years after his lecture.²¹ In the words of one eyewitness, Parker’s conclusion was “an emphatic declaration that unless science is wrong then the doctrine of evolution must be true.” This same member of the audience was left perplexed by the technicalities of the “jaw-breaking name,” but saw clearly enough that Parker’s teaching of evolution was “to be guarded against” as he feared “people will not send their sons to a place where will be instilled into them notions calculated to subvert their views of Christianity.”²² The subject of evolution remained controversial in Dunedin.

It is worthwhile at this point to consider the notion of popular science. Old diffusionist models, in which a watered-down version of science was handed down to audiences in a sort

of predigested, easily assimilated manner, have been thrown out of the window. Historian Bernard Lightman's pioneering studies have examined the plethora of nineteenth-century figures that made a living from public lectures or from popular writing.²³ Lightman has given a voice to people from outside the intellectual elite and shown that the tangled meanings of spectacle, showmanship, improvement, amusement and authorship were all integral to the complexities of popular science. The second half of the century witnessed an extraordinary blossoming of popular publications about the natural world, and their authors covered a wide range of people, including suffragettes, spiritualists, vicars, secularists, and celebrated discoverers. Moving away from print culture, studies by historian Iwan Morus on the performance and theatre of physics and electricity shows, and their demonstrations at the Royal Polytechnic Institution, have put the culture of scientific display in a central position. But the study of performance and platform culture is, for the historian of science, a relatively new sub-field. Furthermore, Morus suggests that if we want to thoroughly understand the role of nineteenth-century science, we need to pay close attention to the boundaries between producers and consumers of science.²⁴ Parker's performance as a lecturer sat exactly at such a boundary: he was both a producer of zoological knowledge and consumer of scientific subjects less familiar to him like astronomy.

Parker emulated Huxley, but his command of the lectern was no match. One of Parker's obituarists wrote that "his delivery militated against the effectiveness of his speaking."²⁵ Similarly, a reporter noted that Parker "has a pleasant voice, if rather low, but he has a peculiar habit now and again, in reading, of appearing to come to the end of a sentence too soon, thus finishing up with a jerk."²⁶ Parker was not alone in struggling with performance. Few of the vast numbers of ephemeral speakers were natural performers and even famous men like Thomas Carlyle, Matthew Arnold and William Morris all overcame nerves—leading historian Martin Hewitt to conclude that audiences found substance to be more important than style.²⁷ The lucidity of thought and sense of humour which Parker so admired in the lectures of his mentor shone through in his own, driving at least one observer to comment: "Professor Parker is no unworthy disciple of his great master, Huxley."²⁸ We can also suppose that, as with Huxley, "tricks of oratory were carefully avoided."²⁹ Although not a natural performer, Parker was undeterred and whilst he "was not a man who came prominently forward in colonial life," his popular informative lectures were an essential part of his identity as a teacher and producer of scientific knowledge.³⁰ With the evolutionary cause to promulgate, he overcame a natural shyness, even diffidence, and performed on the platform. Parker's performances satisfied local audiences on the merits of "this delightful method of acquiring knowledge."³¹ This comment speaks to Parker's skill at packaging information in an entertaining fashion.

There is no direct evidence to indicate how the audiences for Parker's lectures were usually constituted. But "there are few things harder, at least in Dunedin, than to get up a large or enthusiastic public meeting," noted one reporter, although it could be done.³² Crowds of up to 2000 gathered for traveling star performers.³³ But few lecturers could command such numbers: "only a small fraction of the population will go forth to meetings ... they will not attend a lecture simply because the subject is important, and the lecturer a worthy man," wrote one reviewer.³⁴ And yet, clearly there was an appetite for scientific rational entertainment in Dunedin, especially if audiences "have some special motive presented to them [and] their feelings roused."³⁵ Shortly after Parker's inaugural lecture, for instance, a local butcher, Albert Dornwell, produced an advertisement in the *Otago Daily Times*, which read:

Professor Parker as an "evolutionist" must also be a progressive man, and as such he should depart from the old idea of allowing only a limited number of students to participate in his learning, but put the results of his investigations in popular form, and

allow the citizens of Dunedin to “imbibe” at lectures delivered monthly during the long winter evenings. This would make “shop-keeping” much more pleasant than it is at present. Nowhere do you get such value for money as at A. Dornwell’s.³⁶

Quite how attendance at a popular scientific lecture would make shopkeeping a pleasanter experience remains a mystery, though Dornwell’s “funny advertisements” were a well-known feature of the *Otago Daily Times*.³⁷ However, the links Dornwell made between Parker and evolution, and his plea for an egalitarian approach to learning and self-improvement, are a mixture worthy of Dornwell’s sausages, for which he was famous in Dunedin.

In the second half of the nineteenth century it was possible to make a good living from lecturing, though there is now mounting evidence that—in Britain at least—interest in science shows waned as the century wore on, particularly if showy experiments were not forthcoming.³⁸ In Dunedin interest in visiting lecturers could be stimulated by advertising and not all of the rational entertainment on offer had a didactic function. The “much travelled” impresario Richard S. Smythe (d.1917) took “under his protecting wing” a range of touring entertainers.³⁹ Thus Dunedin played host to several famous people who included the city on their Australasian tours, amongst them Mark Twain, Annie Besant the social reformer and theologian, and renowned journalist George Sala. Sala, “the disagreeably overpuffed” journalist, provided two hours of “gossipy talk about Russia” at the Lyceum, which was sufficiently entertaining that the *Otago Witness* columnist Cavis was able to “forget that, physically, you are cabined, cribbed, confined, and to say this is to give the lecturer very high praise.”⁴⁰ The audiences for Mark Twain’s two performances at the Dunedin City Hall in 1895 included many people “whom one seldom sees at any entertainment, and only at lectures,” which implies that the two realms held different appeal for different audiences.⁴¹ But to Smythe the boundaries between various forms of spoken entertainment were porous so long as his performers were top-ranking, clearly spoken and experienced orators—and it was a profitable business. On stage for two hours, Twain recounted “story after story ... in his own peculiar and original manner ... which was very mirth-provoking.” This performance, as English scholar Randall Knoper argues, entailed a great deal of rehearsal and preparation on Twain’s part so that “acting naturally” became a “confusion of masks and faces, posturings and unveilings.”⁴² So, like Huxley, Twain’s time spent in the preparation of performance was all-important. Contemporary reports of Twain’s entertainment merely record that he told “his stories in a matter-of-fact way as if utterly unconscious of their drollery,” and noted that he was a raconteur rather than a lecturer.⁴³ As historian Martin Hewitt notes, it was the combinations of performance and text, and ideas and event which had the greatest impact on audiences.⁴⁴ In other words, substance mattered more than style, and this held local performers in good stead.

Amongst the top-ranked scientific performers was the superstar Richard A. Proctor (1837–1888), a British astronomer who visited Dunedin in October 1880, his arrival delayed because of his success in Sydney.⁴⁵ The tour, also organized by Smythe, was Proctor’s swansong; after 16 years on the road he announced his retirement from public lecturing at the end of his New Zealand tour. In Dunedin Proctor’s promotion included careful editorial pieces that extolled his career, which were culled from contemporary biographical dictionaries of eminent people like *Men of the Time*. This ensured that Proctor commanded large audiences and filled the largest hall in the colony, Garrison Hall in Dowling Street, to capacity.⁴⁶ Audience numbers swelled because “some annual religious and social gatherings, and some private parties” were postponed in the city, including the monthly meeting of the Otago Institute whose members were amongst the “science hungry” part of the population.⁴⁷ Proctor held substantial scientific credentials, contributing some 83 technical papers to the monthly notices of the Royal Astronomical Society on his original scientific work related to

Venus and Mars. But he was best known as an author of articles for scientific periodicals aimed at a wide audience, which included the *Popular Science Review* and *Scientific American* amongst others.⁴⁸ On his return to London he founded, edited, and wrote many of the articles for the science journal *Knowledge*, which he set up in competition to the weekly *Nature* in an attempt, explains Lightman, to “question the role and dominance” of a scientific elite.⁴⁹ In the introduction to the first issue he eschewed the technical and formal tones of *Nature* and stated his views on popular writing: “Discoveries and inventions communicated to scientific societies at home and abroad will not be presented until they have been translated from technical language which to the general reader is mere jargon.”⁵⁰ He had learnt from bitter experience how to engage with an audience, whether on the platform or with the written word. He was a prolific author and most of his better-known works, like *Half-hours with the Telescope* (1866) and *Other Worlds than Ours* (1870), were available at booksellers throughout New Zealand.⁵¹ In Dunedin, Proctor’s standard series of eight lectures was reduced to four; they comprised a factual exposition of the origin of the earth, moon, sun and stars. But as the local columnist Civis pointed out, “you may read everywhere between the lines the pestilent word Evolution. Mr Proctor carefully avoids uttering that word—forewarned, possibly, by the astute and politic Smythe, whose trade is to know the little weaknesses of his public.”⁵² Proctor denied the charge: “Mr Smythe has never in any way suggested either what I should say or what I should refrain from in matters scientific.” But he did admit he had been careful to talk about the “growth of worlds,” while making no secret of the fact that he was a believer in evolution.⁵³ Proctor had clear aims for his series of lectures and clear notions of how to approach his audience: “the general public do not want science presented to them as if they were of intelligence inferior to their teacher’s,” he wrote, nor could they be expected to “take an interest in statements conceived in abstruse or technical terms.”⁵⁴ For men like Proctor, the skills of lecturing were honed by writing and on the platform by repetition and practice.

Self-promotion of lecture tours was an altogether trickier affair and it was easy to misjudge an audience. William Denton (1823–1883), a British-born American geologist, arrived in Dunedin in 1882 to deliver a series of six lectures entitled “The Story of the Earth.” The son of working-class Methodists from Durham, England, Denton’s oratorical career began at age 16 on temperance issues. Whilst apprenticed to a machinist, he attended the local mechanics’ institute and read widely on geology. He moved to America and held a series of jobs, including spells as editor of radical newspapers in Cincinnati, and Dayton, Ohio, and later as a teacher of geology at Wellesley College, Massachusetts.⁵⁵ His idiosyncratic views bore little resemblance to his upbringing; they were a peculiar blend that married psychometry and spiritualism with geology where, according to his hagiographic biographer, “the unseen is more real than the seen, and consequently more enduring.”⁵⁶ A prolific author, he wrote several popular works, of which the most famous were *Our Planet: Its Past and Future* (1868), *The Irreconcilable Records: or, Genesis and Geology* (1872) and three volumes entitled *The Soul of Things* (1863). In this last he related how his wife, Elizabeth, visited foreign planets whilst he mentally connected with rocks and fossils to investigate life in the Carboniferous era some 300 million years ago.⁵⁷ His main scientific claim to fame was the discovery of fossilized animals in the La Brea tar pits in Los Angeles.⁵⁸ The Dunedin public, it seemed, were unaware of either the spiritualist or the temperance elements in his background. They “looked forward with confidence to an intellectual treat ... [from one] whose name has been long associated with the study of this most popular science [of geology].”⁵⁹ The series of six lectures began well; but as it progressed, so too did his rhetoric, and correspondents to the local paper complained that they wanted hard facts, not unsupported wild assertions.⁶⁰ In his last lecture he wandered off the topic and denounced the evils of tea, coffee, tobacco and grog—which did not go down well with his critics. Denton’s

rant cost him his status as an authoritative speaker on geology, despite his popularity as an author on the subject.

Credibility and authority are fragile attributes: as historian Graeme Gooday observes, they take on performative qualities where the audience is judge and jury of both occasion and speaker.⁶¹ The contrasting receptions of Proctor's and Denton's lecture series provide evidence for historian Iwan Morus's claim that what constituted science for nineteenth-century audiences depended largely on who they trusted to deliver the intellectual goods.⁶² Denton's experienced performance did not rely solely on "the many graphically painted word-sketches" which he delivered after an "unassuming abruptness" at the beginning followed by an "impassioned style" as he warmed up, but also on illustrations.⁶³ The text-heavy advertisements described how the event would be "illustrated by Hundreds of Magnificent Paintings and Photographs, illuminated by the Oxy-hydrogen Light, forming a Grand Panorama of Creation."⁶⁴ According to his son Sherman, who later wrote an account of the trip, the visual aids were more than adequate: "We had a stereopticon, and after the lecture was delivered, illustrations were shown and explained. We used Middleton's lanterns [which] threw upon the screen a fifteen-foot picture of startling clearness and brilliance ... we made friends, and enemies too, ... Father's lectures were only popular with the liberal classes, the bigoted know-it-alls doing their best to keep people from turning out."⁶⁵ Denton had, during the course of his life behind the podium, encountered many critics who seemed not to bother him: "let orthodox zealots defame — their bitter breath cannot hurt Denton," claimed his biographer. Nevertheless, without a tour manager to promote Denton's credentials or to inform him about the characteristics of local audiences, he ran into trouble.

With or without adequate promotion, visits by touring lecturers were a noteworthy event in Dunedin. For most of the time, local audiences perforce relied on local talent for their rational entertainment. The university was an obvious source of expertise and some professors were more willing, or more able, to provide popular lectures outside their prescribed teaching duties. When the Honorary Secretary of the Oamaru Athenaeum and Mechanics' Institute wrote in January 1884 to the five professors asking "if they would kindly oblige by delivering a lecture during this coming month," only Parker replied quickly. He chose "Bacteria" for his subject, which was duly advertised. A local correspondent drummed up support for what he clearly thought an obscure topic, writing "as the subject is probably new to some of our inhabitants, ... we ought to know more about their origin, the conditions under which they exist, the effects of their elaborations, and how to avoid them."⁶⁶ Evidently this drum-beating helped, as "the audience was a fairly numerous one, considering the prevalence of the absurd assumption that lectures on scientific subjects are necessarily dry and uninteresting."⁶⁷ But why did Parker choose "Bacteria"? The simple answer was, it was one he had prepared earlier. Parker had delivered a series of three on "Fermentation and Putrefaction" (1882) as part of the Otago Institute's campaign to present popular lectures and it was a simple matter to shorten the material to one presentation.⁶⁸ Reading the published transcript of the Oamaru version, it becomes obvious why he chose bacteria; it allowed him to talk about spontaneous generation. The essential question Parker posed was: "How do bacteria find their way into fluids [formed by putrefaction or fermentation]? ... Did they exist already, were they carried there, or were they created anew? The study of these like every other biological enquiry brings us face to face with the question—what was the origin of these things? Creation or Evolution?"⁶⁹

Of course to Parker the answer was obvious: there was no spontaneous generation. As we have seen from the statements in his inaugural lecture, he advised that direct creation was unthinkable. For evidence he cited findings made by Louis Pasteur and John Tyndall (1820–1893). Tyndall, the physicist and friend of Huxley, had made a series of experiments during 1871–1872 in which he showed that liquids kept in what he called optically pure air (i.e.,

cleansed of “germs” or floating particulate matter) were incapable of developing bacterial life, but that those same liquids exposed to ordinary air soon swarmed with bacteria.⁷⁰ Parker’s lecture summarized the current state of knowledge about bacteria and the experimental steps taken by Tyndall to prove there was no such thing as spontaneous generation. Parker’s exposition included a variety of stage props which replicated Tyndall’s experiments, including a number of sealed tubes and flasks, which contained infusions of hay, turnip, mutton and fish, and which had remained unspoiled from bacterial putrefaction for two years or more. Parker had set up these replica experiments using a specialized piece of apparatus—the Tyndall Chamber—in May 1882 to demonstrate the research to his university students. But in Oamaru he used them to demonstrate to an altogether different audience. This foresight showed the depth of Parker’s preparedness before delivery of a lecture matched that of Huxley or Twain. Parker simplified and downscaled Tyndall’s research-based experiments and produced a lecture in which the methodological proofs and underlying principles of the science of generation were clearly explained step by step to a lay audience. It is unclear whether Parker took the Tyndall Chamber to Oamaru; certainly its products were, and the material evidence Parker presented supported the evolutionary concepts he imparted. Iconic instruments and apparatus used to demonstrate concepts in lectures were, according to historian Peter Heering, part of the claim for the precision of science and technology. Further, Heering suggests that the process of simplification focused attention on the performance with the instrument, or in Parker’s case stage props, rather than solely on the instrument itself.⁷¹ Aware, probably, that he had pushed the tolerance of his lay audience far enough into the realms of a “dry and uninteresting” topic, Parker took pity and put his subject into perspective with a further exposition on the practical benefits of the study of bacteria. The utilitarian aspects of the subject, he explained, “apparently so remote from all direct human interest, have begun what promises to be a complete revolution in the Science of Medicine.”⁷²

Locally, Professor James Gow Black (1835–1914), a chemist at the University of Otago, was a consummate “prodigious” performer whose demonstrations sometimes “appeared magical.”⁷³ His talents were in high demand and he made several lecturing tours to the goldfields, including townships like Lawrence and Alexandra, where he established educational classes geared to the needs of miners.⁷⁴ Black’s goldfield lectures had a specific and utilitarian purpose, to help exploit colonial resources. Black’s success was due in part to the “practical nature” of his demonstrations, tests, assays, and analyses of likely gold-bearing rocks.⁷⁵ But in part, Black’s theoretical explanations on the formation of reef-gold and gold-bearing quartz veins provided information to practical miners that was like the very gold nuggets they sought, and they listened attentively.⁷⁶ Black’s series of lectures were immensely popular and back in Dunedin the columnist *Civis* wrote this verse:

I have carted to the diggings tons of useful information,
I have set the miner all agog for higher educations.
In my popular science lectures I analyse his foods and drinks;
And I titillate his nostrils with the most suggestive fumes and stinks.⁷⁷

Black had the advantage over Parker, not just in the delivery, but also because demonstrating chemistry with its inherent stinks and bangs was a more entertaining spectacle than using either static diagrams or wallcharts, or the inert stuffed or bottled specimens that Parker took with him to his lectures. Black received wide recognition for his role in technical education; he taught university students during term time, miners on the goldfields over summer, and on Saturday mornings in winter months, teachers who “crowded attendance from all parts of the country, several having to stand in the laboratory and lobby for want of room.”⁷⁸

Like Professor Black, Parker’s primary focus was on teaching university students; but in contrast to the chemist, Parker viewed much of popular science lecturing as worthless

substitutes for real learning.⁷⁹ At the conclusion of a lecture he gave on “The Octopus” (1885), he said “he must impress upon his hearers that they had not, in listening to his lecture, learnt anything about the octopus, but only about a few more or less badly-drawn diagrams,” and a glass model.⁸⁰ His caustic humour showed through here, as he poked fun at himself but pressed his more serious point home: “there was something positively distressing in the cant talked sometimes about popular lectures. ... [Their] important function ... was not to teach. They served to remove prejudice, and to create an interest in different subjects.”⁸¹ Warming to his contemptuous theme on “cant” and current pet phrases, Parker stated that popular lectures had as much to do with teaching as “torch-lights, tambourines, and red jackets with the work of the Salvation Army; or, if he might be allowed to say so, as tea meetings had to do with the work of the Church.” Surprisingly, these comments went unremarked. It was, however, common for late nineteenth-century scientific practitioners to denigrate popular science. H. G. Wells, another of Huxley’s students, had no doubt that the worst examples came from practitioners themselves. They talked down to their audiences, he complained, using vague terminology that was difficult to follow. Wells had little time for “inaccurate facts” written in the “dialect of their science” instead of the language of readers, or audience.⁸² Parker gave his octopus lecture on more than one occasion. It was based on his own researches into the dimorphic forms of male and female octopuses, an opportunity that presented itself when the nine-foot creature was caught in Otago Harbour.⁸³ Parker tried hard to remove the prejudice accorded to octopuses and thought that his time “had not been wasted if he had shown [the audience] that even in the ugly octopus there was something beautiful and something of interest to every human being.”⁸⁴ With these educational and informational aims he was in tune with other members of Dunedin’s educated elite—the men of the Otago Institute.

Council members of the Otago Institute which included Parker, however, worried about the lack of support “from the educated section of the community which its objects merit” and sought to “stir up a more general interest in its work.”⁸⁵ Although they were naturally concerned to attract and retain membership, the pressing problems of technical education for those who were not scholastically minded occupied the full attention of the councillors and unusually they devoted a whole monthly meeting to the topic.⁸⁶ The Otago Institute produced several series of popular lectures to “induce people to study science, for themselves,” amongst them Parker’s series on “Fermentation and Putrefaction” (1882), but the effort could not be sustained.⁸⁷ Although they were advertised as popular, it is clear from the minutes that they were regarded as short academic courses “of not less than two and no more than six lectures,” and each lecturer was “requested to prepare ... a syllabus ... after the form adopted by the Cambridge University Extension.”⁸⁸ The council took their self-imposed educational role seriously, but indifference amongst the targeted adolescents, coupled with the inability of lecturers to find time to prepare and fulfill their promises, meant the courses only lasted for a few years.⁸⁹ It is worth noting that the lecture series on “Botanical Evolution,” which was given by George Malcolm Thomson FLS (1848–1933), the local high school science teacher, and which covered “the doctrine of evolution as applied to plants” in the first lecture, “structural modifications of leaves and stems: parasitism” in the second and “evolution of flowers” in the third, elicited no comment in the local papers. Of course, the evolution of plants was not a contentious issue as no links could be made to their origins and the ancestry of humans. The council members of the Otago Institute wanted the study of science to be as much of an egalitarian process as possible, and their practice of papers “taken as read” or “laid on the table” during their meetings was one method of achieving this beyond the popular lecture. This practice saved non-specialists the tedium of listening to papers where their interest was only general. Even amongst Parker’s peer group of educated men, the tolerance of, and audience for, specialized science (or other erudite discourse) was limited. “Let the Otago Institute summon the public to its subterranean audience-chamber to hear a

course of lectures, and happy is he who can command thirty persons,” wrote a critic in the *New Zealand Presbyterian*.⁹⁰ In any case, it must be remembered that members of the Institute held a wide range of expertise: “those who only taking a casual interest in scientific discussions, look chiefly to the results; while, at the same time, there are present professional specialists in almost every branch of knowledge.”⁹¹ The variety of papers laid on the table in this way were “of a technical nature,” which included descriptions of new species, or new-found occurrences of existing species, and were the kind of “inventory science” which had its origins in the desire to produce catalogues of the world’s animal and plants.⁹²

The last major occasion on which Parker took the platform, and for which we have a detailed written report, was as the outgoing president of the Otago Institute. On this occasion his evolutionary views were tempered with more political purposes. He raised awareness over “the urgent need for adequate protection of native birds” as well as “the advisability of establishing a Fisheries Board for the Colony” and associated marine laboratory. He also publicly bemoaned the fact of scientific isolation, which he hoped would be partly solved by the establishment of the Australasian Association for the Advancement of Science. Parker finished with a round-up of the current state of biology: he explained recent advances in knowledge of the tuatara’s “third” or “pineal eye” and made reference to “the minute structure of cells and nuclei” which he labeled “a new department of molecular biology.” His final words—“biology is daily becoming at once more exact and more philosophical”—revealed a deep awareness of disciplinary shifts and boundaries.⁹³ From this it is easy to surmise that he was aware that his own approach to the “anatomical and morphological problems ... that zoology [and evolution] posed” was giving way to a modern approach focused on the mechanisms of inheritance.⁹⁴ The *Otago Daily Times* wrote a by-and-large favourable critique of the lecture: “Professor Parker’s address is pleasant reading, if only because it is that of a man who is evidently devoted to the pursuit of science for itself, and entirely free from the cant of the popular lecturer.” This would surely have pleased Parker, as it neatly summarized his philosophy and brought him full circle back to his mentor, Huxley. Local pride in a professor who more than held his own on the world’s stage was obvious, but the critic “resented the note of scientific isolation which Professor Parker struck so frequently.”⁹⁵ This last comment reflected the gulf of misunderstanding on the part of the newspaper (and lay audiences) regarding the needs of specialist scientific men to talk with like-minded peers. The cultural inclusion of scientific matters did not compensate for the rigour of informed intellectual discourse. Only a tiny handful of men were able to pursue a scientific career in the colony and benefit from having their ideas routinely pushed or tested. Even amongst the scientifically trained (mostly medical) men, the taste for and interest in detailed anatomical research was limited. Culturally speaking, however, like elsewhere in the Anglophone world, Parker and university men like him were an important part of the intellectual life of their town or city.⁹⁶

Whenever Parker lectured on contentious evolutionary issues or on straightforward biological matters, the substance he imparted was worthy of comment. Parker’s performances enriched Dunedin’s vibrant platform culture and he produced educational information in an entertaining fashion. On the podium he made use of rhetorical strategies learnt from close observation of Huxley, and was not above borrowing his mentor’s content. In common with other nineteenth-century lecturers, he demonstrated his science using stage props adapted either from his own research or from iconic experiments, but his lucidity of thought and expression was entirely his own. With Parker, Dunedin audiences were assured of an authoritative and entertaining treatment of what could have been dry and uninspiring subjects—something that could not be guaranteed with visiting lecturers. With a delivery that left a lot to be desired, a sometimes perverse choice of arcane subject matter, and without star quality to attract audiences, he nonetheless adjusted his expositions to fit the audience.

Colonists with an appetite for improvement welcomed their local professor's instruction, if not always agreeing with his scientific world view.

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 - ⁵ *Otago Daily Times*, May 9, 1881, 2; Parker, "Biology as an Academical Study: 1."
 - ⁶ Leonard Huxley, "Home Memories," *Nature* 115, no. 2897 (1925), 698–702; Parker, "Biology as an Academical Study: 1."
 - ⁷ Thomas Henry Huxley, "On a Piece of Chalk," [1868], in *Discourses Biological and Geological Essays*, ed. T. H. Huxley (New York: D. Appleton and Company, 1896), 1–36.
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 - ⁹ Tony Ballantyne, "Reading the Newspaper in Colonial Otago," *Journal of New Zealand Studies* 12 (2011), 47–63.
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 - ¹³ *Otago Daily Times*, June 29, 1882, 1; *North Otago Times*, January 28, 1884, 3; *Otago Daily Times*, September 23, 1884, 2; *Otago Daily Times*, June 2, 1885, 3; *Otago Daily Times*, September 27, 1895, 2; *Otago Daily Times*, July 23, 1891, 2.
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- ²⁹ Martin Hewitt, "Beyond Scientific Spectacle: Image and Word in Nineteenth-Century Popular Lecturing," in *Popular Exhibitions, Science and Showmanship, 1840–1910*, eds. Kember, Plunkett and Sullivan, 83.
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- ⁴⁶ *Otago Daily Times*, October 11, 1880, 3; *Otago Daily Times*, October 15, 1880, 2.
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- ⁹² Numerous examples of "laid on the table" and "taken as read" are scattered through the minutes of the Otago Institute. A single instance will suffice here to provide an indication of inventory science: "The President laid on the table a paper by Mr D. Petrie on a new *Carex* (*C. longicularis*) from Stewart's Island." Minute November 22, 1882, MS0128A, Hocken Collections, Dunedin. The term "inventory science" is borrowed from Jim Endersby,

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