


Section A		
Institution: University of St Andrews		
Unit of Assessment: UoA 31: Theology and Religious Studies		
Title of case study: Scientists in Congregations, Scotland (SiCS): Transforming the Conversation about Science and Theology in Scotland		
Period when the underpinning research was undertaken: 01 September 2013 - 2019		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by HEI:
Andrew Torrance Thomas McCall	Senior Lecturer Professor	01 September 2013 – present 01 September 2016 – 31 August 2019
Period when the claimed impact occurred: 01 September 2013 - 2019		
Is this case study continued from a case study submitted in 2014? N		
Section B		
1. Summary of the impact (indicative maximum 100 words)		
<p>Andrew Torrance’s research challenges the growing perception in Western society that science and theology belong to mutually exclusive domains of inquiry. More specifically, it proposes ways in which scientists and theologians can work together to overcome the obstacles facing the public conversation about science and faith. To change the perception of their mutual exclusivity and to communicate his own approach, Torrance introduced the Scientists in Congregations model to Scotland, building on its success in the United States. Scientists in Congregations Scotland (SiCS) engaged with 25 congregations (approximately 2,500 people (congregants)) and supported 19 projects, each of which was led by a pastor working alongside a professional scientist. The implementation of this programme was undergirded by Torrance’s research into how best to create a fruitful discussion on science and theology in a way that is attentive to the concerns of both scientists and pastors. As SiCS surveys conducted between 2014 and 2016 demonstrate, this has (1) increased congregational understanding of science and theology and congregational engagement with the natural sciences across Scotland: funded congregations showed: 42% rise in the confidence of their understanding of science and theology; 83% rise in the frequency with which the relationship between theology and science was addressed in church life; and 33% increase in scientists using their scientific expertise in the life of the Church; and (2) transformed the cultural conversation about science and theology in church communities in Scotland, directly influencing, for example, the Church of Scotland’s commitment to bringing science and theology into increased dialogue, and other parts of society in Scotland and the UK more broadly. SiCS organised a series of 25 public lectures in St Andrews and secondary school talks, attended by approximately 6,250 people in total, with 75% of those surveyed agreeing that the lectures had helped them to see that science and religion were not in conflict. The success of SiCS directly led to the launch of another SiC programme in England and Wales, which has funded a further 35 congregational projects. SiCS has also reached an international audience through popular articles, podcasts, and videos.</p>		
2. Underpinning research (indicative maximum 500 words)		
<p>As recent sociological studies show, the relationship between science and religion in the UK is less antagonistic than is often assumed. Yet a tendency to compartmentalise science and religion into separate domains (in order to overcome any perceived competition between them) makes it difficult to bring these two areas into an interactive conversation. As the surveys at the beginning of SiCS showed (in 2014), the struggle to understand how theology and science interact holds congregations back from engaging with the sciences. To address this challenge, the underpinning research (R1 to R5), conducted between 2013 and 2017 (published between 2017 and 2019),</p>		

had the following core focus: to develop a constructive understanding of the relationship between theology and science without either compartmentalising them into separate, mutually exclusive domains of study, or allowing them to compete with one another in a way that compromises their specific aims.

‘Should a Christian Adopt Methodological Naturalism?’ (**R1**: researched between 2013 and 2016, published 2017) critiques several dominant ways in which people compartmentalise science and theology—ways which make it difficult to bring these two areas into conversation. It also argues constructively for theology-engaged science by showing how two-way interaction between theology and science is critical to Christian thinking and unthreatening to contemporary work in the natural sciences.

‘The Possibility of a Theology-Engaged Science: A Response to Perry and Lane Ritchie’ (**R2**: researched between 2013 and 2017, published 2018) argues that a conversation about science and faith not only requires theology to engage with the sciences but also requires the sciences to engage with theology. This is because, from a Christian perspective, theological reflection makes a decisive difference to how one interprets the empirically accessible history of the natural order.

‘The Possibility of a Scientific Approach to Theology’ (**R3**: researched between 2015 and 2017, published 2018) presents a constructive account of theology that demarcates its methods from the methods of the natural sciences. It does this by considering how theological work is defined by the wholly unique nature of its object of study. Specifically, whereas theologians devote themselves to studying God and all things in relation to God (neither of which are discernible by directly observing the natural cosmos), natural scientists are devoted to investigating phenomena that are directly observable within the natural cosmos. While a distinction is drawn between these two areas, they are also considered to complement one another.

Knowing Creation: Perspectives from Theology, Philosophy, and Science (**R4**: researched between 2013 and 2017, published 2018) and *Christ and the Created Order: Perspectives from Theology, Philosophy, and Science* (**R5**: researched between 2013 and 2017, published 2018) address two key questions that kept coming up in the dialogue with congregations in Scotland during the SiCS project: (i) how can one construe the natural order as creation without undermining the conclusions of contemporary science?; (ii) how can one consider constructively the relationship between the natural order (as studied by scientists) and God’s interaction with it in Jesus Christ? Torrance and McCall brought together an interdisciplinary team of scholars (8 theologians, 8 biblical scholars, 7 philosophers, and 10 scientists) to write 32 chapters (in two co-edited volumes, with co-authored introductions) responding to these questions. As a whole, these chapters show that: (1) the doctrine of creation can be complementary to work in the natural sciences; (2) Scripture’s account of creation can be interpreted in a way that is wholly compatible with scientific views about the origins of the cosmos, life generally, and humanity specifically; (3) scientific and theological methodology need not be competitive; and (4) scientists can think about their vocation theologically—without leaving their faith behind at the door of the laboratory.

Overall, **R1** to **R5** challenges two dominant and opposing paradigms of research in the field of science and religion: (i) the research disputes other research being undertaken in the Intelligent Design movement that risks confusing the relationship between science and theology. While this approach is widely dismissed in the academic world, it continues to influence Christian congregations worldwide and has generated suspicion of Christianity in mainstream science; and (ii) the research challenges other research that argues that the tools of science cannot serve the task of theology (and *vice versa*) because these two disciplines belong to non-overlapping domains of inquiry. The dominance of research that argues for this second stance has influenced how many academics in these fields of study think about the (non-) relationship between theology and the natural sciences.

3. References to the research (indicative maximum of six references)

R1 to **R3** are published in the top peer-reviewed journal in their respective fields. **R4** and **R5** are edited volumes published with an academic publisher. All five pieces of research were supported by a peer-reviewed grant.

R1) Andrew Torrance, ‘Should a Christian Adopt Methodological Naturalism?’, in *Zygon: Journal of Religion & Science*, 52(3) (2017), DOI: [10.1111/zygo.12363](https://doi.org/10.1111/zygo.12363).

R2) Andrew Torrance, 'The Possibility of a Theology-Engaged Science: A Response to Perry and Lane Ritchie', in *Zygon: Journal of Religion & Science* 53(4) (2018), DOI: [10.1111/zygo.12475](https://doi.org/10.1111/zygo.12475).

R3) Andrew Torrance, 'The Possibility of a Scientific Approach to Theology', in *Journal of Analytic Theology* 7(1) (2019), DOI: [10.12978/jat.2019-7.001322191404](https://doi.org/10.12978/jat.2019-7.001322191404).

R4) *Knowing Creation: Perspectives from Theology, Philosophy, and Science*, ed. Andrew Torrance and Thomas McCall (Grand Rapids: ZondervanAcademic, 2018), ISBN: 9780310536130, www.zondervan.com/9780310536130/knowning-creation/.

R5) *Christ and the Created Order: Perspectives from Theology, Philosophy, and Science*, ed. Andrew Torrance and Thomas McCall (Grand Rapids: ZondervanAcademic, 2018), ISBN: 9780310536086, www.zondervan.com/9780310536086/chri-and-the-created-order/.

4. Details of the impact (indicative maximum 750 words).

The practice-led research (**R1-R5** were undertaken between 2013 and 2017 and published between 2017 and 2019) was communicated through: the [Scientists in Congregations Scotland's](#) (SiCS) series of 19 projects (engaging 25 congregations), 39 public lectures and school talks, and popular articles, podcasts, and videos (with international circulation). By so doing, it has changed the conversation about science and theology in Scotland. Specifically, it has increased congregational understanding of science and theology, furthered congregational engagement with the natural sciences, and transformed the cultural conversation about science and theology in church communities and wider society across Scotland. Furthermore, 'building on the success' of SiCS, another SiC programme was launched in England and Wales, through Durham University (which has so far supported 35 congregational projects).

(1) Increased congregational understanding of science and theology and congregational engagement with the natural sciences across Scotland.

SiCS was developed according to Torrance's research on the interactivity between science and theology. The increased understanding and engagement are evident from SiCS surveys (**S1**) conducted over a 2-year period (between 2014 and 2016) with the funded congregations. They recorded a 42% rise in the confidence of funded congregations in their understanding of science and theology; an 83% rise in the frequency with which the relationship between theology and science was addressed in church life; and a 33% increase in scientists using their scientific expertise in the life of the Church.

In the initial phase, this research (**R1, R2**) shaped the design of the programme as a whole. In the second phase, Torrance's research determined the judging criteria that were established for the Request for Proposals (RFP) (**S2**), which was distributed to congregations across Scotland. It was in response to the RFP that congregations submitted proposals for project funding, and it was according to the RFP's criteria that it was decided which projects to fund. In this way, the 19 SiCS funded projects adopted the paradigm for the conversation between science and theology advocated in **R1** and **R2**.

The 19 SiCS projects (funded between 2014 and 2016) were led by professional scientists and pastors, under the overall leadership and coordination of Torrance as the SiCS Project Leader. The congregational projects involved a range of activities that challenged the perception that science and theology are mutually exclusive. In addition to having a direct influence on funded congregations, the SiCS programme also had an indirect impact on the beliefs and attitudes of others who were not directly involved due to the scale and breadth of participants. First, the funded projects were run by prominent influencers, such as the Moderator of the Free Church (2015 and 2016), the President of the Royal College of Physicians and Surgeons of Glasgow (2015), and the Chaplain of Eco-Congregation Scotland (2017). Second, the projects involved many different Christian denominations in Scotland (Baptist, Church of Scotland, Episcopal, Brethren, United Reformed Church, Methodist, Independent, and Free Church) and were ecumenical in outlook. Third, the projects covered a broad geographical area in Scotland (Glasgow, Edinburgh, St Andrews, Dundee, Aberdeen, Stonehaven, Banchory, Motherwell, Dumbarton, East Kilbride,

Hamilton, Paisley, Greenock, Falkirk, Livingston, as well as a Church of Scotland congregation in Geneva).

(2) Generated a more positive and constructive conversation about science and theology in church communities and other parts of society in Scotland and the UK more broadly.

(2.1) The research **(R1-R5)** and engagement activity of SiCS led the Church of Scotland to become increasingly committed to bringing science and theology into dialogue. This is supported by the following statements from two Moderators of the Church of Scotland (all the quotes that corroborate the impact of SiCS were obtained in September 2018 when working on the first draft of this impact statement):

“[SiCS] has had outstanding success in transforming the way in which many key congregations across Scotland engage with the natural sciences. It has done this by boosting the confidence of church leaders and members when it comes to addressing issues of science and faith. The exciting results of this programme demonstrate that it has not only brought about substantial change in the short-term but has also established fertile ground [for] further growth in the impact of the programme and lasting change in the years to come.” (Moderator of the Church of Scotland in 2015) **(S3)**.

“SiCS has encouraged respectful dialogue across disciplines and has allowed people of faith and people of doubt to engage positively with one another. SiCS has begun to establish a role in enabling this dialogue and it has come as an exciting initiative hailed by those who have been involved...[I]t is my own experience on the ground which allows me to confirm their accuracy and allows me to be effusive in my acknowledgment of the work that SiCS has been doing.” (Moderator of the Church of Scotland in 2014) **(S4)**.

(2.2) The research **(R1-R5)** and outreach of SiCS also influenced the "Grasping the Nettle" (GTN) programme: a programme formed by Church leaders in Scotland (established after SiCS) that is dedicated to promoting constructive dialogue on science and faith. The influence of SiCS on GTN is due to collaboration between the two programmes: SiCS funded congregations to work with GTN during its inception, enabling GTN to host a launch event and connect with local schools. Also, in his role as the project leader for SiCS, Torrance serves as an advisor for GTN. The Director of GTN writes (on the relationship between the two programmes):

“[SiCS] has had a positive impact on the work that [GTN] is doing to transform society's understanding of the relationship between science and faith—in schools, universities, churches, and the public square... [This outreach has] been facilitated through SiCS and the research it undertook... Specifically, one of the SiCS projects partnered with GTN in the staging of a regional public event and also in the distribution of information to schools on the science/faith dialogue. Dr Torrance has also contributed to strategy development at meetings of GTN advisers.” **(S5)**

(2.3) Since 2013, SiCS has run the James Gregory public lectures on science and religion, which take place 3 to 4 times per year at the University of St Andrews. Between 2013 and 2020, 25 lectures have been held, which have drawn near-capacity crowds, with an average of approximately 250 people (general-public attendees); SiCS also funded 7 accompanying lectures in Edinburgh. In addition to their public lectures, the James Gregory lecturers gave talks (on the topic of their lecture) to an average of over 50 people (secondary school students aged between 14 and 18) in the St Andrews area, as well as a dinner discussion with 15 local scholars, religious leaders, and scientists. The estimated total number of attendees to the St Andrews lectures is approximately 6,250 people and consisted of the general public, including people from a wide age range (school children to senior citizens) and with a variety of religious beliefs, which was a result of reaching out to persons from different religious organisations. When searching for “Science and Christianity” on iTunes podcasts, 37% of the top 100 results are of these public lectures; and the lectures on Vimeo have already been viewed over 10,000 times. Surveys **(S6)** filled out by over 400 people (students) over 9 James Gregory lectures (to date, the only ones we have surveyed) show that the lectures helped: 75% understand that science and religion are not in conflict; 84% recognise that science and religion can help us to develop a better understanding of what it is to

be human; 78% become more open to engaging with science; and 71% become more open to engaging with religion.

(2.4) '[B]uilding on the success' of SiCS (to cite and paraphrase Durham's SiC Website **S7**), another SiC project has been launched in England and Wales through Durham University, which has so far supported 35 congregational projects (**S7**). The Durham project was modelled on SiCS, and therefore shaped by the research that undergirded SiCS (**R1-R5**). To provide a specific example of how this happened: the Project Manager for Durham University's project used the SiCS RFP, based on Torrance's research, to inform the RFP distributed throughout England and Wales. Accordingly, Durham's Project Manager affirms:

"The success of [SiCS] paved the way for another 'Scientists in Congregations' programme in England, based at Durham University, which is having a major positive impact on both the Church's and society's conversation about science and faith. This is evident through the demonstrable success of the congregational projects themselves, as well as from BBC coverage of the programme and publications about its work in leading journals such as Nature. All the evidence suggests that the English programme is transforming the environment for this conversation." (**S8**).

(2.5) The research (**R1-R5**) and the outreach activity of SiCS also caught the attention of the media, leading to an increase in the number of articles published on the interaction between scientists and congregations in popular Church magazines and virtual media such as *Life and Work* (circulation: 20,000), *Connect* (magazine for Baptist Union of Scotland), *Church Times* (circulation: 20,000; readership: 26,000 unique visitors per week), *Messenger*, *FAITH Magazine*, *Learn*, *Biologos'* weblog (1,000,000 unique visitors per year). To provide a specific example of this increase: in 2020, *Life and Work* is running a series of monthly features on the topic of science, religion, and technology (on the recommendation of Torrance, through his involvement in a working group for the Church of Scotland's *Society, Religion, and Technology*). Lastly, Torrance was also filmed on his research on science and theology for the United States' PBS television show, *Closer to Truth*, which "air[ed] on over 200 PBS and public television stations" (**S9**).

5. Sources to corroborate the impact (indicative maximum of ten references)

S1. Surveys and collated results for the congregational projects.

S2. SiCS Request for Proposals (RFP).

S3. Email from the 2015 Moderator of Church of Scotland.

S4. Email from the 2014 Moderator of Church of Scotland.

S5. Email from Director of *Grasping the Nettle*.

S6. James Gregory Lecture surveys.

S7. Durham's SiC Website, <https://www.eclasproject.org/congregations/> (time-stamped pdf from 13/8/2020).

S8. Email from Project Manager of Durham University's SiC programme in England and Wales.

S9. Closer to Truth website, www.closetotruth.com (time-stamped pdf on 13/8/2020).