

Index

- Alternative hypotheses, 6–7
 - generation of, 6–7, 23, 30: in scrapie research, 9–11, 12–14, 16, 23–4, 30
 - reception of, 6–7, 23, 30: in scrapie research, 14–16, 17, 20–2, 24–7, 29–30
- Anomalies, 73, 76, 148
 - judgement of, 5–7, 23, 30: in scrapie research, 9–11, 15, 23, 29
 - model anomalies, 6, 30: in scrapie research, 9–10, 29
 - monster anomalies, 6: in scrapie research, 15–16, 23, 29
 - in scrapie/TSE research, 11, 16–17, 20, 23, 29, 80, 83, 148, 187: in Germany, 85–8
- Bibliometrics, 165–6
 - and discursive circulation, 166, 172–4, 175–6
- Boundary work, 150
 - of media, 150, 154: in prion controversy, 150–5, 187
 - in TSE field, 150
- BSE crisis
 - in France, 136, 139–40, 142–3, 145–6, 150–5, 187
 - in Germany, 88–90, 92
 - in UK, 55, 62, 74, 89, 161–82
- Central Dogma of molecular biology, 11, 16, 30, 101
 - and protein-only/prion hypothesis, 11, 13, 16, 30, 42, 118, 150
- Citations
 - as indicators of discursive circulation, 172–3, 174
 - as indicators of influence, 165–6, 175
 - as opposed to citing papers, 175–6
 - Prusiner's, 164, 172–81
- Core-set, 56
- Crystallography, 103, 120, 121–3
 - in prion research, 119, 124–5, 127
- Discourse
 - circulation of, 163: political effects of, 163
 - prion discourse, 92: and BSE crisis, 161–82, 187; circulation of, 3, 161–5, 175–6, 181–2, 188: political effects of, 161–4, 172, 181–2, 187; construction of TSEs in, 162–3, 166: and perception of BSE, 163, 182; discursive chain, 163–5: in scientific literature, 166–82, 188; terminology, 61, 84, 148, 162, 163, 166, 173
 - TSE discourse, 74, 75, 84, 87, 92, 93, 162–3
- Metaphor in science, 117
 - in biology, 100, 117: informational, 117–18; domino-stone, 117, 118–19
- Molecularization of biomedicine, 60–3, 65–6, 187
 - and commercialization, 61, 62–3, 64–5, 187
 - and scientific culture, 59, 61, 65
 - and standardization, 61, 63, 65, 187
- Multidisciplinarity, 5–7, 30
 - communication problems in, 7, 25–7, 30
 - insider/outsider, 24–9
 - in scrapie research, 7, 9–12, 23, 30
- Normal science, 73–4, 75–7
 - crisis of, 74
 - in TSE research, 79–80: in Germany, 85
- Nuclear magnetic resonance, 120, 121–3
 - in prion research, 119, 120–1, 124

- Paradigm, 73, 75
 change of, 74, 76, 78: in TSE research, 83: in Germany, 74; under construction in TSE research, 3, 84, 187: in Germany, 91–3
 crisis of, 76: in TSE research, 81–3: in Germany, 87–8
 of TSE research, 79, 187: in Germany, 84
- Prion
 as epistemic thing, 3, 103, 117
 as infectious protein, 2, 11, 17–18, 20, 22, 27, 41–2, 44–7, 50, 80–1, 86, 104, 123, 154: as foreign PrP, 45–7, 50, 141, 186; as PrP^{Sc}, 2, 43, 47–53, 93; as PrP^{Sc} inducing conformational conversion of PrP^C into PrP^{Sc}, 20, 47, 105–19, 186
 as new biological principle of infection, 2, 4, 84, 182
 as protein existing in two different three-dimensional structures, 99, 104, 105–27
 as proteinaceous infectious particle, 16–17, 40–2, 80, 86–7, 103, 154
 reification of, 123
 in yeast, 100, 123–7
- Prion controversy, 3, 44–56
 with Edinburgh/NPU, 43–4, 49–50, 52–3, 55, 81
 in France, 135, 136, 140–56
 in Germany, 74, 85–93
 with IBR, 42, 50, 52
 opening stages of, 40–4, 57, 59, 60
 with Yale Medical School, 48, 55
- Prion hypothesis
 development of, 16–20, 138
 in education, 84, 93
 as heresy, 11, 42, 44, 54, 61–2, 81, 83, 188
 as model, 99, 117, 128, 187: in yeast work, 100, 123, 125, 187
 and newcomers, 86, 88, 143–4, 147–9, 155, 187
 as obstacle to knowledge, 147
 as opposed to prion research, 135–6, 142, 144–5, 147, 156, 182, 188
 in peer-review, 143, 145, 149, 169–70
 reception of, 20, 22, 50, 53–6, 60–6, 74, 81, 82, 83–4, 87, 91, 92, 93, 99, 114, 117, 128, 135–6, 140–2, 143–5, 147–55, 181–2, 186
 sceptics of, 44, 47–54, 56, 57–9, 60, 63, 65, 187
 in scientific literature, 84, 148
 supporters of, 44, 52, 57, 59–60, 63, 65
- Prion protein (PrP)
 discovery of, 18, 42–3, 81, 85, 186
 discovery of two isoforms PrP^C and PrP^{Sc}, 18–19, 47
 origin of the two isoforms, 19–20, 47, 105–6, 110–11, 123
 as prion, 18–20, 43, 45–53, 99–100, 105–19, 135, 143–4, 152, 153–5: challenge to, 46–53, 55–6, 83, 141, 144–5, 152–3, 155
 secondary structure of PrP^C, 106–8
 tertiary structure of PrP^C, 108–11, 120–1, 123, 128: of PrP^{Sc}, 111–13, 121, 128
 as virus receptor molecule, 52
- PrP gene
 discovery of, 18, 45–7, 50, 63, 81, 135, 186
 knocked out, 82
 mutations of, 19, 51–2, 81, 141
- Protein
 folding, 101, 102, 114–17, 123
 studies, 100–3, 114–17, 119, 120, 128
- Protein-only hypothesis
 history of, 2, 4, 9–18, 24
 prion hypothesis as, 2, 4, 44, 50, 52–6, 118, 150, 155, 187
 reception of, 11, 14–16, 20–30, 44, 50, 52–6, 60, 138, 155, 187
 requirements to promote, 29–30

- Protein-only hypothesis – *continued*
 self-replication of protein, 11–14,
 17–18, 22, 24–7, 29–30
- Public sphere
 and prion hypothesis, 135, 147–56
 and prion research, 3, 143–7, 155–6
 and science, 135
 and TSE research, 135, 137, 139–40,
 142–3, 145–7
- Publications
 as indicators of discursive
 circulation, 166
 as indicators of productivity, 165,
 166–7
 Prusiner's, 164, 166–72
- Scientific change, 4, 5–7, 23, 73
 and disciplinary background, 7,
 23, 30
 and multidisciplinary, 5–7, 30
- Scientific revolution, 74, 77, 187
 in biology, 4
 and newcomers, 77, 86, 88, 92
 in TSE research, 80–3: in Germany,
 88–91, 187
- Strains of infectious agent, 43, 50, 57,
 58–9, 79, 83, 92
 conservation of, 49, 52–3, 55
 variation of, 43–4, 49–53, 57, 152
- Styles of scientific practice, 3, 39–40,
 56, 63, 65, 187
 generalist biological, 57–9, 60, 64–6
 specialist biochemist, 57, 59–60, 63,
 65–6
- Transgenic technique, 51, 61–2
 mice, 51–2, 61–2, 82
 in prion research, 51–2, 53,
 61–2
- TSE research
 history of, 4, 8–16, 78–80: in
 Germany, 84–93; in France,
 135–49
 history of funding: in UK, 64; in
 Germany, 87, 88–9, 91, 92; in
 France, 137, 138, 139, 142–3,
 145–6, 155, 187
- TSEs as both infectious and genetic
 diseases, 8, 19, 20, 82
- Virino hypothesis, 41, 43, 49–50, 80,
 141–2, 187
 and Edinburgh/NPU, 38, 43, 60,
 91–2
- Viroid hypothesis, 80, 85–6, 93
- Virus hypothesis, 8, 48, 50, 54, 74,
 79–80, 84–5, 90, 91, 93, 138,
 144–5, 152, 155
 challenge to, 9–16, 23–4, 80–1,
 82, 88
 and newcomers, 145, 148–9
- Visualization
 and computers, 102–3
 in molecular biology, 100–3,
 128
 of prions, 103–8, 187: by
 computer, 3, 108–17,
 120–8
 in science, 100, 114