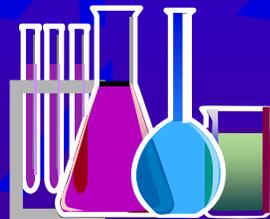


**If necessity is the
mother of invention,
who is its father?**

Roger Burt



Chemistry



▶ US Patent 3,976,690 Stauffer

Chemical Company

▶ PCl_3 + yellow P + CH_2CH_2 (30 atm, 200°C , 16 hours)

Intellectual property

- ▶ Patents
- ▶ Copyright
- ▶ Registered and unregistered designs
- ▶ Trade marks
- ▶ Database rights
- ▶ Semiconductor topography rights

- ▶ Trade secrets
- ▶ Confidential information

Legal basis

- ▶ National laws
 - ▶ UK Patents Act, Copyright Patents and Designs Act
- ▶ European laws
 - ▶ European Directives
 - Computer Implemented Inventions Directive
 - Biotech Directive
 - ▶ European regulations
 - Community Trade Mark Regulation
 - Technology Transfer Block Exemption
- ▶ International treaties
 - ▶ Patent Cooperation Treaty
 - ▶ Paris Convention for the protection of Industrial Property
- ▶ Regional agreements
 - ▶ European Patent Convention

Rights conferred

- ▶ Intellectual property rights do not permit the owner to do anything
- ▶ They provide the right to stop use of the protected matter by others unless with permission of the rights owner
 - ▶ Time limited
 - Patents - 20 years
 - Copyright - 70 years
- ▶ Copyright protects expression (computer program is a literary work)
- ▶ Patents protect ideas and principles

Patents and inventions

- ▶ Patentable invention must be:
 - ▶ new
 - not known anywhere in the world
 - ▶ non-obvious
 - assessed by the skilled man (team) in the art
 - ▶ capable of industrial application
 - ▶ technical (in USA must be "useful")
- ▶ Technical solution to a technical problem
 - must make a technical contribution to the state of the art
- ▶ Patent applications published 18 months after first filing
- ▶ Patents granted after examination, may be revoked by courts

Criticisms

- ▶ Patent system - "has become the sand rather than lubricant in the wheels of progress"
- ▶ Patents - "threat to the open source software movement"
- ▶ European companies lag behind US and Japanese rivals in protecting and exploiting their ideas
- ▶ Soaring numbers of patent applications swamping the system - declining quality
- ▶ Patent protection across EU too complicated and expensive

Change

- ▶ Forced change or voluntary change?
 - ▶ Pace of innovation is accelerating along with its impact on society
 - ▶ Openness and collaboration is the ethos of modern science
 - Open source software
 - Linux
 - Collaborative innovation
 - Internet for rapid dissemination of knowledge
 - Organisations (nations) become more virtual
 - Creation of "Intellectual commons"
 - Drugs for third world diseases
 - Technology standards
 - Internet, grid, HTML, RFID.....
- ▶ The D of R&D is very expensive
 - ▶ Low cost of copying
 - ▶ Monopoly rights too strong, too long?
- ▶ Universities forced to get financial return on research

Invention and Innovation

- ▶ A great invention will do something that could not be achieved without it
 - ▶ technical solution to a technical problem
- ▶ Innovation occurs at the intersection of invention and insight
- ▶ Innovation requires both vision and the ability to improve on the invention
 - ▶ key to improvement is often the desire to do something more economically

The answer to life the universe and everything

- ▶ If necessity is the mother of invention
Original thinking is its father
- ▶ Necessity is the mother of taking chances

Mark Twain