

pressure. Comparison of computed geotherms shows melting of crustal rocks due to release of pressure is very unlikely, [cf. Lachenbruch, 1970]. Melting by pressure release 100-200 km below surface is quite plausible, but an assumption that an impact sufficient to excavate the Brent crater, for example, could promptly summon up igneous rocks from 100 km down seems fantastic.

The geometry and composition of the igneous rocks can be explained by explosive endogenic volcanism if it is assumed that the magma has unusually high assimilative powers. Since explosives of high brisance (e.g. H₂) are present in volcanic gases, it seems unreasonable to suppose that volcanic explosions cannot at least locally and rarely produce shock phenomena.

The igneous rocks in Canadian craters cannot be completely explained by any theory so far advanced. A theory of explosive endogenic volcanism satisfies the geochemical data, but appeals to geological processes as yet unobserved. Impact hypotheses appear unlikely to explain the data.

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