

TABLE II
MISCELLANEOUS HIGH ENERGY PROCESSES

<i>Process</i>	<i>Energy</i>
Golfball off tee	10 ⁹ ergs
Thimbleful of TNT	10 ¹¹
Half ton of TNT	10 ¹⁶
Atom bomb—20 kilotons	10 ²¹
Total airborne explosives, World War II	10 ²³
H-bomb—100 megaton	10 ²⁵
Earthquake, San Francisco (1906), Chile (1960)	10 ²⁴
Annual total for earthquakes	10 ²⁵
Heat flow from Earth	8 × 10 ²⁷
Mountain range (1,600 × 480 × 1 km) raised 1 km	10 ²⁹
Arizona Meteor Crater—dig out	10 ²²
Ries Kessel—dig out	10 ²⁷
Hudson Bay Crater, 440 km—dig out	10 ³¹
Spheroid, of density 3.5 gm/cc and speed 72 km/sec, with diameter of:	
0.032 km	1.5 × 10 ²⁴
0.32	1.5 × 10 ²⁷
3.2	1.5 × 10 ³⁰
32.	1.5 × 10 ³³
320.	1.5 × 10 ³⁶
640.	1.2 × 10 ³⁷
Rotational energy—Moon	3 × 10 ³⁰
Rotational energy—Earth	2 × 10 ³⁶
Energy—Moon about Earth	4 × 10 ³⁵
Energy—Moon about Sun	3 × 10 ³⁸
Energy—Earth about Sun	2 × 10 ⁴⁰

The larger the impact the greater the scars, but other effects become increasingly important. A partial list is given:

(1) Earth encircling tidal waves set off by shock on land masses and by direct hits in oceans.

(2) Triggering of volcanic or earthquake activity in unstable portions of the earth's crust, in addition to the creation of new local heat sinks and mechanical stress areas.

(3) Firestorms of great extent by collisions in densely forested areas, contributing vast quantities of organic debris in various stages of thermal decomposition to subsequent sedimentary accumulations. The Siberian fall of 1908, a small one, knocked down and "toasted" a forest 30 km across and knocked down a broader ring beyond this.