Fleck[1] (1865) analysed six coals which had weathered for some years, and noted a decrease in carbon and available hydrogen, accompanied by an increase in oxygen and non-disposable hydrogen.

Thompson[2] (1865) noted that in six months a dry coal lost 13% of its calorific value, but that if the coal was moist, the loss was much greater.

Reder[3] (1866) followed up Grundmann's work and using the same kind of coal found small increase of weight, but no practical changes. In a German coal he found a loss of calorific value of about 4%.

Richters[4] (1868) concluded that oxygen was absorbed by coal, part being again given off as carbon dioxide and water while the rest remained in combination. He found that the absorption was at first rapid, but later became very slow; he thought that the only effect of moisture is to disintegrate the coal when pyrite is present.

Pechin[5] (1872) stated that bituminous and semi-bituminous coals weather most severely, the former losing 10 to 25 per cent of its carbon upon exposure to the atmosphere, but he gives no figures to prove his statement, which is undoubtedly incorrect or rather very greatly exaggerated.

Rothwell[6] (1873) says from his experiments that no losses were noted in the cases of anthracite and bituminous coals, except when using small sizes of the latter.

The English Royal Commission[7] (1876) ascribed [illegible] its combustion to pyrites, condensation of oxygen on the surface of the coal, and to oxidation of the coal matter itself.

Haton[8] (1878) says the cause of heating lies in the combustible itself, possibly aided by the presence of pyrites. He notes also that air must be present.

Kimball[9] (1879) discusses loss of coking power due to weathering, and thinks the weathering of marcasite and pyrite is of as much importance as the weathering of the coal itself.

Fayol[10] (1879) ascribes the main cause of heating to the coal itself.

Admixture of extraneous pyrites with the coal did not appear to hasten the spontaneous heating.

Adverse weather had no injurious effect upon the coal stored in piles, in so far as could be detected.

Coal piled to a depth of less than two metres did not suffer spontaneous combustion.

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[1] Die Steinkohlen Deutschlands, 1865, Vol. II, p. 221.
Abstr. Percy—Fuels, 1875, pp. 290-2.
[2] London Journal of Arts, June 1865, p. 321 (P. and K.)
[3] (A) Zeit. Verein deutsch. Ing. Vol. X, 1866, p. 698.
(B) Oest. Zeitschrift für Berg und Hutton., Vol. XV, 1867.
[4] Dinglers Poly. Jour. Vol. 190; 1868, p. 398.
Dinglers Poly. Jour. Vol. 193; 1869, pp. 54 and 264.
Dinglers Poly. Jour. Vol. 195; 1870, pp. 315 and 449.
[5] Trans. Am. Inst. Min. Eng. Vol. I, 1872, p. 285.
[6] Trans. Am. Inst. Min. Eng. Vol. II, 1873, pp. 141-152.
[7] English Royal Commission, "Spontaneous Combustion of Coal in Ships," 1876.
[8] Rapport de la Commission d'études des moyens propre à prevenir les explosions de gisou; 1878.
[9] Trans. Am. Inst. Min. Eng. Vol. VIII, 1879, pp. 201-225.
[10] Études sur l'altération et la combustion spontanée de la houille exposée à l'air; 1879.