Mognesia rather than of the Attic (see Norden, *Griech. Kunsl- prosa* i. 136). Both Dionysius of Halicarnassus and the pseudo­Longinus characterized him as a model of “ frigidity *” (ψυχρόν),* although the latter admits that in other respects he is a competent writer. Cicero, who was a diligent reader of Timaeus, expresses a far more favourable opinion, specially commending his copiousness of matter and variety of expression. Timaeus was one of the chief authorities used by Trogus Pompeius, Diodorus Siculus and Plutarch in his life of Timoleon.

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**TIMANTHES,** of Cythnus or Sicyon, a Greek painter of the 4th century B.C. The most celebrated of his works was a picture representing the sacrifice of Iphigenia, in which he finely de­picted the emotions of those who took part in the sacrifice; but despairing of rendering the grief of Agamemnon, he represented him as veiling his face. A painting discovered at Pompeii, and now in the Museum at Naples, has been regarded as a copy or echo of this painting (Helbig, *Wandgemälde Campaniens,* No. 1304)∙

**TIMARU,** a seaport of Geraldine county, New Zealand, on the E. coat of South Island, 100 m. S.W. of Christchurch by rail. Pop. (1906), 7615. The slight inward sweep of the coast forms the Canterbury Bight, and the shore-line northward from Timaru is called the Ninety-mile Beach. The harbour is formed by breakwaters enclosing a space of 50 acres. Chief exports arc wool, flour and frozen meat, and the industries are in connexion with these. Opals are found in the district. The Anglican church of St Mary is built of Oamaru and bluestone, with a roof of kauri wood. Caroline Bay, to the north, is a bathing resort. The volcanic soil is highly fertile. Timaru is the chief town in South Canterbury district, and the seat of the supreme and district courts. A branch railway traverses the inland agricultural district.

TIMBER, the term given to wood cut and shaped for build­ing purposes, or growing wood suitable for such purposes; in English law the tenant for life may not cut such trees (see Waste). The word appears in many forms in various Teu­tonic languages, meaning originally material to be used for building purposes; in the case of Ger. *zimmer,* and Du. *limmer,* both meaning “ room,” the word has been transferred to the structures made of this material. The root is seen in Gr. *δϵμeιv,* to build, and Lat. *domus,* house.

The wood used in building is obtained from trees of the class known to botanists as *exogens,* or those trees which grow' larger by the addition each year of a layer of new wood on their outer surface. A transverse section of a tree of this class shows it to consist of three distinct parts: the pith or medulla, the wood, made up of annual rings or layers, and the bark. The pith is in the centre of the tree and around it the wood is disposed in approximately concentric rings; that part near the pith is hard and close in grain, and from its position is termed heart-wood. The sap-wood is made up of the outer layers or rings, and these are softer than the heart and generally of more open grain. Each annual ring is made up of two parts—an inner soft portion light in colour, and a hard, dark-coloured outer portion. The inner portion is formed early in the season and is termed “ spring wood,” the darker part being called “ autumn wood.” The medullary rays extend radially from the centre of the tree to the bark at right angles to the grain of the wood, and serve during life to bind the whole together as well as to convey nourishment from one part of the tree to another.

The greatest care should be exercised in the selection of trees for felling. If the tree is too young the proportion of sap-wood is large, and the heart-wood is not so hard as that of a tree of mature age. The wood of an old tree, on the other hand, has lost a great part of its toughness, and is of bad colour, brittle and often predisposed to decay. In trees that have arrived at a mature age the heart-wood is in its largest proportion and the sap-wood is firm and elastic; and the timber from such trees is of the strongest, toughest and most durable character. The age at which the northern pine and Norway fir arrive at maturity is between seventy and one hundred years. The larch, elm and ash should be felled when the trees arc between the ages of fifty and one hundred years. The oak should be about one hundred years old when it is cut. The best time of the year for felling timber is in midsummer or midwinter, when the sap of the tree is at rest; it is not desirable to cut timber in the spring or autumn. By some authorities it is considered a good plan to remove thè bark in the early spring and fell the tree in the ensuing winter.

As soon as possible after felling, logs should be converted by sawing into scantling sizes, for if the log is left to dry or season, it is liable on shrinking to split. The usual method is to saw a log into planks or boards by cutting it into slices longitudinally as shown in fig. 1 ; this is called bastard sawing, and is the most economical method, but, as will be seen in the diagram, the quality of the boards will vary very much, some consisting almost entirely of sap-wood cut at a tangent to the annular rings such as *a, b, c,* whilst the centre boards contain the heart­wood cut in the best way at right angles across the annual rings as *d, e, f.* For oak and other hard woods another method of conversion is often adopted, called quarter sawing. The log is first cut into quarters and then sawn diagonally (fig. 2). In oak this develops the beautiful silver grain by cutting longitudinally through the medullary rays. Timber is now generally sawn into marketable sizes in the country of its growth, and shipped as scantling timber.

Definitions and sizes are given below of the most usual forms of sawn timber:—

A *log* is the trunk of a tree with the bark removed and branches lopped.

A *balk* is a log hewn or sawn to a square section, and varying in size from 11 to 18 in. square.

*Planks* are parallel-sided pieces of timber from 2 to 6 in. thick, 11 or more ins. wide, and from 8 to 21 ft. long.

*Deals* are similar pieces 9 in. wide, and 2 to 4 in. thick.

*Battens* arc similar to deals, but not more than 7 in. wide. Pieces of planks, deals and battens under 8 ft. long arc called ends. Many of the soft woods, such as pine and fir, are sold by the standard. The standard of measurement most in use is the St Petersburg standard, which contains 165 cubic ft. or 720 lineal ft. of 11 in. by 3 in.

A *load* of sawn or hewn timber contains 50 cub. ft., and a load of unhewn timber 40 cubic ft.

A *square* is a superficial measurement, used chiefly for boarding, and contains 100 sq. ft.