

good "talking points" at the expense of fundamental unity of impression, disturbance of the plot to include popular devices, preference for "synopses only," so that he and his countless coadjutors may manipulate the plot to their own liking, and other similar faults, tend to remove the finished product far from the artists' original conception and to discourage his higher ambitions.

The book should prove immensely valuable both to aspiring photoplay writers and to thoughtful frequenters of the film theatres. Its fairness of tone will probably win it a friendly reception as well with any producer who is far enough afield to know of it and read it. It has no very high points of interest and no outstanding faults, but is throughout an excellent example of its kind, timely and significant.

## Notes

LATE in August Harper & Brothers will publish "The Kaiser as I Know Him," by Dr. Arthur N. Davis.

Henry Holt & Co. will this month publish "Home Book of Verse," by Burton E. Stevenson.

September publications of Frederick A. Stokes Company are announced as follows: "Fast as the Wind," by Nat Gould; "Star in the Window," by Olive H. Prouty; "Human Side of Animals," by Royal Dixon; "Children of France," by June R. Lucas; "Lost Indian Magic," by Grace and Carl Moon; and "Stokes Wonder Book of the Bible."

G. P. Putnam's Sons announce that "The Devastation of Europe," by Wilhelm Mühlon, will appear under the title "The Vandal of Europe."

MR. ROBERT WITHINGTON'S investigations in the field of pageantry were begun at Harvard University, and his volume, "English Pageantry. An Historical Outline. Volume I" (\$3.50), is handsomely printed, with illustrations, by the Harvard University Press, which deserves credit both for the excellent topography and for the careful proof-reading. The word pageant has had a somewhat curious history. At first it designated a scaffold, usually moving, or a float or platform, and later came to refer to the exhibition which took place on this vehicle. All moving shows in which action and dialogue were unimportant might be included under this term. Certain elements of these shows, as giants, animals, and wild men, became more or less established conventions; indeed, Dr. Johnson suggested that the word might be derived from *payen geant* (pagan giant). The recent use of the term for community dramas or extensive *tableaux vivants* is, of course, modern, but these entertainments may be regarded as in some degree the successors of the old processional shows. Pageantry from the fourteenth through the seventeenth century has certain connections with the drama. The most interesting of these have already been fully treated, the connection with folk drama by Mr. E. K. Chambers in his "Medieval Stage," and the connection with the Court Masque by various scholars. These topics are consequently passed over hastily by Mr. Withington, and his first volume is given up mainly to "Royal Entries." Lord Mayor shows and modern survivals will apparently occupy most of his second volume. English pageants in connection with royalty have been fully reported in Nichols's "Progresses" and similar collections, but Mr. Withington traverses the field anew, noting survivals and modifications of the ancient pageantal material. The

book will be valuable for reference for students of the subject. The material does not lend itself to connected narrative, but permits the overflow of a good deal of interesting information into the footnotes. These are very extended and contain much that bears on the varied bypaths of the main theme, such as the relation of the pageant to church ceremonies, to romantic and allegorical literature, to trade symbolism. The author confines himself to England, but introduces some notes on foreign shows, particularly those in France. More comments might have been expected upon the Italian processional shows.

THE sixth volume of the Elliott Monographs in the Romance Languages and Literatures is a critical text of one of the early monuments of Spanish literature, "El Libro de Apolonio" (Johns Hopkins Press; \$1.50), a thirteenth-century metrical variant of the story treated by Shakespeare in his "Pericles, Prince of Tyre." This Milesian tale was one of the most widely disseminated fictions during the Middle Ages. The interrelationship of these numerous versions has been ably studied by Elimar Klebs. Professor C. Carroll Marden, accepting most of Klebs's results, has added greatly to the work of the German scholar. He agrees with Klebs that the Spanish poem is of Latin rather than of French or Provençal origin, and argues this thesis in a thoroughly convincing manner. In addition to the source study, the introduction contains the technical description of the manuscript and remarks on the authorship and date. The text is a model of conservative editing. As the editor had but a single manuscript on which to base his text, he has refrained from making any but obviously certain emendations. Corrections of a more hazardous nature will be offered in a second volume soon to appear. Here, too, will be presented a detailed, critical commentary of the "Apolonio."

MAJOR H. M. ALEXANDER'S "On Two Fronts" (Dutton) is a modest volume, as becomes a record devoted to the share that the Indian Mule Corps took in the early fighting in France, and later, in company with that other notable unit, Colonel Patterson's Zionist Mule Corps, at Gallipoli. It is important for the intimate sidelights it throws upon an obscure branch of the Indian Expeditionary Force, its organization, and the manner of men who composed it. We do not hesitate to recommend the book as an informal and rewarding text for all transport officers in our own army. Major Alexander's corps of Indian Transport, with its mules and men faithfully supplying ammunition under shell-fire, and always at the mercy of a cruel and unfamiliar climate, deserves a record all its own. While the whole story of the gallant services of the Indian troops in France remains to be told, here is a brave little record of a branch of the service, looked down upon even in India, where honors and rewards are only too rare. Major Alexander's pride in his men and mules is infectious: the simple story of quiet heroism, with plenty of humor illustrating the reactions of Sikh or Mussulman or Dogra of the north of India, from the moment they view the sea for the first time at Bombay, and are rendered *pūrrā* by its unexperienced motion, to their happy contacts with the French, offers entertaining reading. The ways in which the men made concessions in the matter of caste and food observances is something that the preoccupied West must some day appreciate along with their recognized valor. There are touching moments, too, such as the historic day

when their old commander, Earl Roberts, shattered their homesickness with his appreciation in Hindustani; or the day they were told that from Calais they might view the legendary shore of that *wilayat* to which they owed allegiance, and where many of them were destined to convalesce of "blighty" wounds. Major Alexander writes of his children with affection, of their naïve wonder when he took some of them up in the elevator of the Ritz in Paris, or their desire to sacrifice overboard one of their precious carts, mule and all, if only to see the wonderful, be-goggled diver recover it from Alexandria harbor.

THE methods of Germany's peaceful penetration in South America and the political ambitions but partially concealed behind them are set forth with considerable ability by the naturalist Emile R. Wagner in his book, "*L'Allemagne et l'Amérique latine*" (Paris: Librairie Félix Alcan). M. Wagner gathered his facts while on a tour of exploration in Brazil. Out of the many Germans encountered there he has selected, or rather composed, two types, Otto Rathbaum, the agent of great financial companies, and Field-Marshal von und zu Burdenthal. In the naïve revelations of these men he finds abundant corroborative evidence for the existence of Pan-German designs upon Brazil and the Argentine. Quite appropriately, therefore, he prefixes to his book Tannenberg's map of South America as it is to be reconstituted under German auspices. The author writes with an artistic feeling, which, considering his subject, would be rare in any one but a Frenchman. Plainly he is a poet as well as a "voyageur naturaliste."

THAT geographical location, physical characteristics, and the natural resources of a region have exercised a far-reaching influence upon the evolution of human society within that region are matters which are recognized and appreciated by students of environmental influences on man. That such influences, however, fail of due appreciation by the large body of students and investigators within the general field of economic and social phenomena will probably be admitted. With many the far-reaching and controlling influence of geographical environment upon man's life conditions is easily lost sight of and may eventually be entirely overlooked in the complex conditions which determine the progress of human events. Not so easily, however, is this influence overlooked in the workings of primitive societies, where life conditions are reduced to their lowest terms, so that the play of geographical forces may the more easily be determined. Within recent years, a number of scholars have shown in concrete form how man's life, under such simple conditions, has been profoundly influenced by physical or natural circumstances; and, further, it has been held that even under more complex life conditions to-day these influences still play an important part. A most interesting volume bearing directly upon this subject has been prepared by James Fairgrieve entitled "*Geography and World Power*" (Dutton; \$1.50 net), in which it is shown that, throughout the whole course of history, events and circumstances have been controlled by those conditions and phenomena which are classified as geography. The author understands the term "controlled" to mean that the precise way in which human events have been worked out has been determined largely by the geographical factors in the environment. There are, of course, those who contend that racial characteristics are

more determinative in human progress than geographical factors; but Mr. Fairgrieve shows that, in the long run, geographical conditions are more powerful in their workings than the genius of individuals, or even of racial characteristics, unless perchance the latter have been evolved by geographical controls. The author supports his general thesis by tracing out historically the development of nations (many of which are now extinct) under the influence of this or that type of geographical environment. The desert, marsh, and steppe, land and water routes, the plain, the oasis, and other typical forms of environment are considered in explaining the development of such civilizations as those of Egypt, Babylonia, Assyria, Palestine, Phœnicia, Greece, Carthage, Holland, Britain, and other countries in which a typical example of any particular control may be instanced. There are places where the reader may wish to take issue with the author, but on the whole the volume is sane, convincing, and stimulating. It will stand as an important contribution to the increasing literature bearing upon the influences of geographical environment in human affairs.

IN the preface to the eighth edition of "*Jeanne D'Arc*" (Macmillan; \$1.35 net), the first of Mr. Percy MacKaye's plays to receive professional production some dozen years ago, the author utters a hope cherished by all lovers of French culture—namely, that our present admiration for France may be continued in the long years of peace by an interchange of our literatures. Perhaps Mr. MacKaye's play will acquaint a wider circle of readers with the idealism of French history. The present edition, it may be added, is printed from the same plates as the earlier ones.

A NEW edition of Bolton Hall's "*Three Acres and Liberty*" (Macmillan; \$1.75 net), a book which soon after it appeared in 1907 aroused much discussion and caused many dwellers of the city to try "raisin' things," has been published. The author announces that "the book is intended to show how any one can trot off if he will," and sets forth many advances in methods and results in doing things and growing things. Some of the critics of the earlier volume are answered; revisions in tables have been made; and "the musty parts have been cut out of the book."

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## Art

### The Leaning Campanile of Pisa

THE debated question as to the accidental, or constructive, bend in the leaning Tower of Pisa has engaged the attention of architects, engineers, artists, and even poets; but the humble bell-ringer whose practical experience in the belfry has taught him certain facts bearing upon the stability and behavior of masonry has not as yet ventured to intrude his views on the matter. An attempt to contribute towards the solution of the problem from this novel point of view may therefore be of interest.

A rare volume entitled "De Tintinnabulis," published 1664, by Hieronymus Magnus, contains a chapter about inclined towers, in which appears the only allusion, so far as I know, to the hypothesis of earthquakes to account for their irregularity—a theory condemned by him in strong terms. Indeed, if any such violent disturbance of the earth's crust had actually occurred at Pisa, some trace of the accident would doubtless have been left either in fracture of stonework or signs of masonry repair; while a record, or the legend, of so unusual a phenomenon would have survived.

The following is a translation of the observations of Magnus:

There are those, however, who maintain that towers of this anomalous design were not originally constructed in the form now presented, but nodding, have become deflected and inclined as the result of damage by earthquake. Such persons, however, are convicted of unpardonable error by the very thresholds and doors; also the sockets at the various floors on which the scaffolding was sustained during the process of construction; for these parts are all level, not sloping, and stand true to the spirit level.

The highly improbable story attributed to Vasari, referring the deflection of the Tower of Pisa to gradual soil settlement during the work of construction, seems not to have reached the ears of Magnus, or else he deemed it unworthy of notice. Nor is it likely that this idea would ever have been seriously entertained had not Vasari given it the weight of his authority. As sailors do not add freight to a sinking ship, so artisans do not imperil their lives by piling additional weight upon a collapsing fabric.

Rehault de Fleury states that the foundations were exposed in 1838 by means of soundings and seem to rest on an infinite number of piles strongly buttressed; but no notice seems to have been taken by the laborers of the level of the walls. Inasmuch as the site of cathedral, baptistry, and campanile was a recognized marsh, it may be assumed that the artisans of that period made no botch of the job of pile-driving, which had then attained in Italy the highest standard, as shown in the public and private buildings of Venice. Indeed, there can be no question as to the efficiency of their work in the other adjacent structures whose foundations have been demonstrated by Goodyear to be level, notwithstanding curves and bends in the upper walls now known to have been purposely designed for optical illusions or perspective effects.

It is pertinent to inquire whether we possess means of determining the opinion of the architect and local officials as to the stability of the campanile at the time when it had reached its maximum height (178 feet), many years before its actual completion in 1350. To this question an unequivocal answer is embodied in the decision to install

an exceptionally heavy peal of seven bells, of which the seventh, or largest, weighed about six tons. And hereby is revealed a factor incident to the matter of stability which has hitherto escaped attention. These bells were hung, five in the upper arches (one arch being left for thoroughfare) and the two smaller bells in embrasures above. Of these original bells the first, second, and fourth are still preserved. The latter is inscribed with the date, MCCDLXII, and is one of the oldest dated bells extant. It is important to observe that these bells were not affixed rigid to a beam, as American chimes are treated, but were fitted with headstock, wheel, and other appurtenances to provide for swinging. The bell ropes were brought down through mouseholes in the stone work to the ground floor, and the grooves, inches in depth, worn by friction in these holes, indicate centuries of use.

Lofty structures such as towers and steeples are usually held to be sufficiently secure if built to withstand the lateral pressure exerted by the strongest gales. A more powerful force, however, is induced by the action of swinging bells; and this force is projected not only laterally, but to a much greater degree vertically, governed by a law of physics but recently comprehended.

To a series of experiments conducted by E. H. Lewis, M.A., we are indebted for the evolution of an algebraic formula by means of which can be calculated with considerable accuracy the horizontal and vertical reaction of a rigid body revolving around a fixed horizontal axis under the influence of gravity. By applying this formula to the action of a bell weighing six tons, its horizontal thrust is shown to be about thirteen tons, while its vertical force would be no less than twenty-three tons. It may be assumed, therefore, that neither architect nor bell founder would have ventured to jeopardize the integrity of so unique a monument by subjecting it to this prodigious battering strain had they entertained the slightest doubt as to its absolute safety; and the correctness of their judgment has been confirmed by its subsequent history.

Standing beside one of these ponderous bells when being rung at a canonical hour, I was able to discern, to my surprise, but slight vibration of the masonry, indicating a stability rarely met with in towers of similar dimensions.

In conclusion, this record of the bells, apart from all other evidence, justifies the assertion that no appreciable structural change has taken place in this edifice since its completion; while the supposition of accidental settlement during the work of construction, always rejected by the local inhabitants, and unsupported either by authentic documents or demonstrable facts, is not only untenable, but indeed has not even had the merit of plausibility. Bellringers, ever conscious of the possibility of disaster from fragile walls, do not undertake the management of swinging bells until assured of the stability of the tower in which they are suspended.

This mute testimony of the bells, therefore, chimes in accord with the opinion of Goodyear, the recognized authority on the asymmetry of mediæval buildings, that the obliquity of Pisa's campanile is one of many examples of intentional avoidance of regularity, a constructive *tour de force* for bizarre or picturesque effect, analogous to that conceded in case of the Leaning Tower of Bologna, and more recently shown by him to have been purposely designed also in the Baptistry of Pisa and in towers of Florence and Ravenna.

ARTHUR H. NICHOLS