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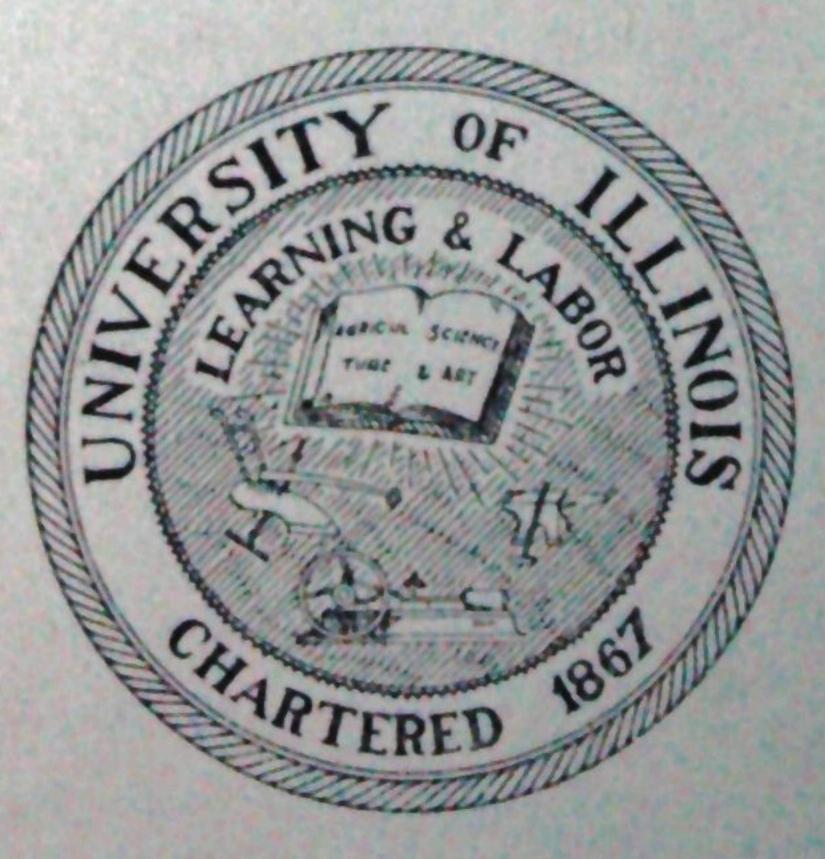
# Asiatic Turkey

## Its Problems and Resources

BY

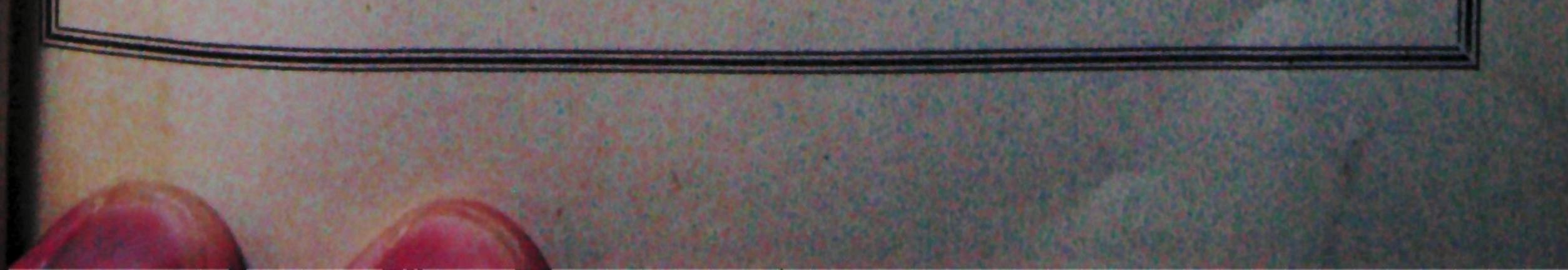
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Professor of Civil Engineering



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# ASIATIC TURKEY-ITS PROBLEMS AND RESOURCES

The Turkish Empire, with its great but only partly developed natural resources and declining political strength, has long been regarded as a tempting prize by the more powerful governments of Europe. It would long since have been torn apart and its fertile lands divided, had there not existed certain mutual jealousies which have served to bring in turn to the support of the "sick man of Europe" one or another powerful force - each hoping by the preservation of Turkish rule to keep from its rival the acquisition of Turkish territory and ultimately to find profit for itself. The great world war was unquestionably incited largely by the peaceful but effective penetration by Germany into and through Asiatic Turkey. The unstable condition of European policy was rendered even more dangerous by the rapid building of the Berlin to Baghdad railroad pointing directly toward India. Tho for the time being the German Empire has disappeared from the map and Russia can no longer threaten England's supremacy in India, the Turkish questions continue to have alarming proportions. This is largely due to the fact that misrule - culminating in the indescribable massacres of the recent war - has convinced the awakening world that the Turks can not safely continue as the dominant class and that immediate steps must be taken to organize some form of government which will permit the millions of people lately under Turkish rule to enjoy life, liberty, and the pursuit of happiness and at the same time facilitate the expansion of trade and commerce made possible and even necessary - to the rest of mankind by the natural wealth

of the country.

The continuation of the Turks as rulers in Western Asia is no longer to be seriously considered; they must be replaced, but by whom? It is hardly possible to conceive that any of the subject peoples can assume effective control. Altho they have lived in adjacent villages or mingled in the market places, there has been cultivated and kept alive by the Turkish government such intense racial and religious hatred that the Possibility of their working together in the near future to form an effective government is beyond belief. Moreover, it is a serious question whether even in a few decades it will be possible to develop free institutions and effective autonomous government among these peoples who for hundreds of years have acquiesced more or less hopelessly in the rule of outsiders, and who have not had the opportunity possessed by many of the nations of Europe to acquire the arts of self-government.

Is it not absolutely necessary for a generation or two that they be under the control of some strong authority which will reverse the policy of the Turks and which will seek to develop among them the habits of mutual toleration and respect upon which free institutions rest?

But why should we here in America be concerned about these matters? Why not let the governments of Europe settle these troublesome problems among their neighbors or, if this can not be done simply keep hands off and permit the various peoples of Asiatic Turkey to work out their own salvation, the more powerful or aggressive forcing

a solution according to their ability?

Unfortunately perhaps for us, the most favored among nations, the time in the history of the world has passed when we can maintain our splendid isolation. Our commercial and economic interests, as well as the moral obligations growing out of the war, have become too greatly involved to be ignored. Any struggle which originates in Asiatic Turkey and which must necessarily bring in one or another of European nations will deeply concern the whole world and injure American interests which already are too vast to be thrown away and which tend rapidly to increase rather than to diminish.

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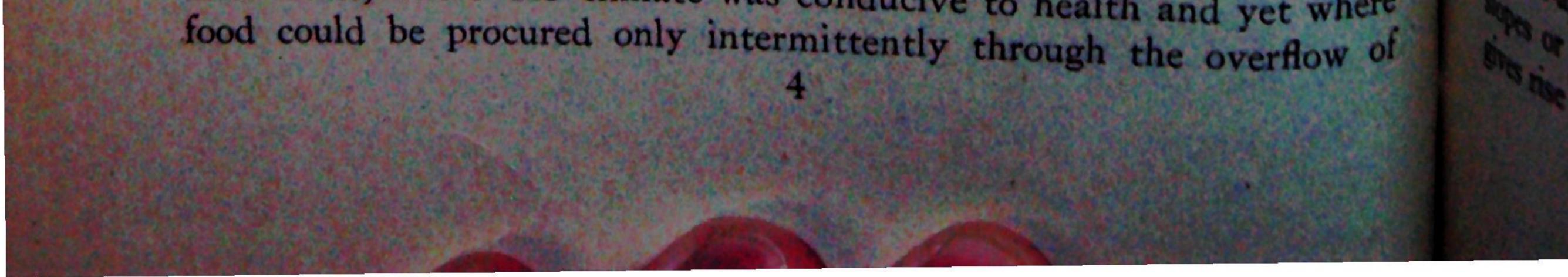
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Americans have a peculiar concern with the affairs of Asiatic Turkey and its future development, not only because the land is full of historic cities and was the birthplace of the great religions of the world, but more especially from the fact that in area, topography, climate, and in

engineering and industrial problems, it is similar to our own arid west. There is a strong commercial attraction, as well as a fascination in the land, a call for service, a longing to put to the test in Western Asia some of the experiences acquired on this continent; a desire to show the practicability of American skill and enterprise in reviving the historic places and in putting to the use of mankind the great resources which have lain dormant for centuries under Ottoman rule.

Civilization originated or reached its highest development in what we usually consider as arid lands, not in the densely forested and wet regions of Europe, Asia, or Africa, but in those parts ordinarily too dry for the production of the common food crops.

Where life was simple and where the daily needs of food were met by hunting in the forests or by fishing in the streams, man apparently did not advance far beyond the satisfying of these needs; but in the drier lands, where the climate was conducive to health and yet where



rivers, there man was forced to be provident, to look ahead far enough to plant and care for the crops which would yield a return only after weeks or months. As he advanced higher in the scale, the overflow of rivers obliterated his landmarks and forced him to make practical applications of the principles of geometry; the need of the regulation of overflow led him gradually to develop engineering practises or a knowledge of hydro-economics which marks the beginning of the work of the civil engineer.

In the Biblical tradition as to the origin of the human race the land of delight, or Paradise, was placed in what is now known as Mesopotamia - down on the Euphrates, the great stream whose waters before the dawn of written history were regulated or divided into the four rivers or, as we would now term them, canals, which irrigated the great area, at present largely marsh, to the south and east of Baghdad. Here were located the vast city of Babylon and many other ancient centers of wealth and empire; while near Kerbela, according to Arabic and other traditions, was the home of Noah and his contemporaries.

However we may regard these legends, there is no question but that canals of antiquity, built thousands of years ago by engineers whose names and nationality are unknown, furnished water to millions of acres of highly cultivated land supporting a great population, the ruins of whose cities are to be seen on every side, and whose culture and traditions have had great influence on the past and have been handed down even to the present day.

While the ancient lands of Babylonia are most alluring from the magnitude of the canals and structures (such as will be built in the near future), there is an infinite variety of interest and opportunity throughout Asiatic Turkey. This area embraces the widest possible range of topographic conditions, from the snow clad peaks of Ararat rising to an altitude of 17,000 feet to the Dead Sea depression more than 1200 feet below sea-level. In this respect it is more extreme than our own arid west, where the highest peaks in the Rocky and Cascade mountains do not attain much above 14,000 feet and the lowest depression, that of the Salton Sea, is about 300 feet beneath the level of the ocean.

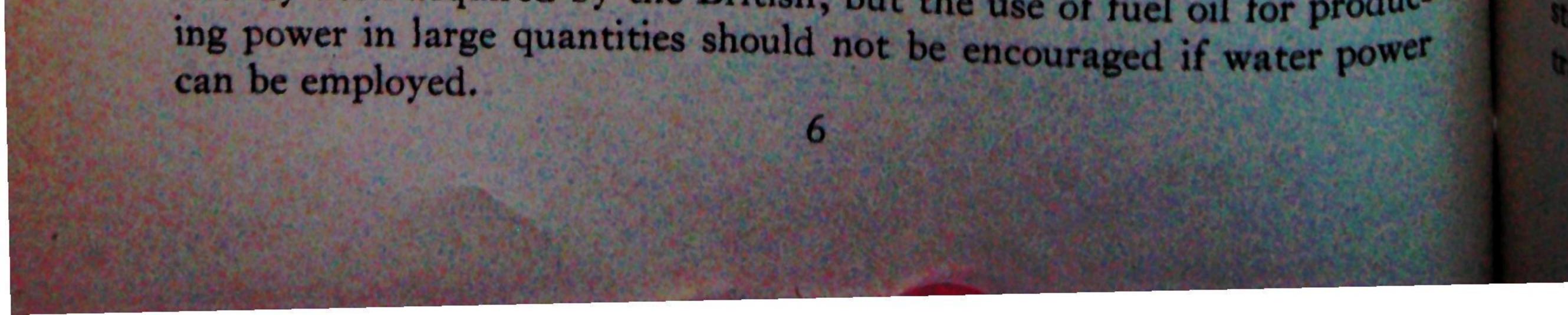
A striking resemblance between these two widely separated countries 1s afforded by the climate. The greater part of Asiatic Turkey is arid or semi-arid. The surface is broken by high mountains, whose steep slopes or summits wring from the clouds the rain or snow fall which gives rise to innumerable small streams. These descending with rapid

fall are usually lost in the parched valleys. Sometimes in flood these rivers penetrate to considerable distances from the mountains and may even force their way to the ocean; but for the most part their waters either sink into the thirsty sands and gravels around the edges of the valleys or disappear in marshes, salt lakes, or sinks, similar to those of Utah, Nevada, and eastern Oregon.

Throughout this part of western Asia as well as the western United States, the possibilities of progress are found in the occurrence or absence of the most valuable of all minerals, that is, water. Without it the lands, even where the soil is very rich, are worthless; but where water can be had in proper quantity and of good quality, agriculture and other industries can flourish and have flourished; a high degree of prosperity has been reached, checked only by devastating wars or destroyed by the long continued misrule of the Turks. In considering the reconstruction of Asiatic Turkey, the restoration of its ancient cultural conditions, or the extension of industry, the first and foremost undertaking, after a fair and stable government has been assured, is the conservation and use of the water supply, scanty in most places but abundant in others.

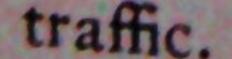
Before any considerable development of the water resources can take place, it will be necessary to build highways and railroads — the conditions here being similar to those encountered in our own arid west, where the first step in utilizing the public lands was the building of railroads and the construction of roads over which could be moved

economically the labor and materials needed in the building of dams for storing floods and in the excavation of canals, tunnels, and other works needed in the conservation of water. Care must be taken, however, to locate and build these railways where they will not interfere with the future building of reservoirs or the development of water power. The water power resources of the country as a whole, particularly in Armenia near the headwater of the Tigris and Euphrates, are large, and the first operation toward construction work pertains to the study of these water powers and to the consideration of how these may be used practically in the building of other needed improvements. Fuel is expensive, and altho coal mines do exist, the coal is not available at points near where most of the heavy work must be undertaken. Petroleum is known to occur in many localities, some of which have already been acquired by the British; but the use of fuel oil for produc-



In what has been said above, reference has been had mainly to the great inland country. The lands bordering the Black Sea on the north or the Aegean and the Mediterranean on the west are, as a rule, low and humid, having a rainfall adequate for the production of most crops and a genial or even hot climate contrasting strongly with the cooler, more extreme temperatures of the plateaus and mountains which make up the greater part of Anatolia and Armenia. These fringing lands not only differ in climatic conditions but are inhabited by peoples quite unlike those living inland. Here the problems of engineering importance include not only the building of railroads and highways, but also the dredging out and improving of harbors and the draining of lands, particularly those near the mouths of the streams which come from the highlands. While irrigation is essential to agriculture throughout the greater part of the remaining area, its counterpart - drainage - is needed in the coastal region.

Included with Asiatic Turkey and until the present time forming part of it, altho quite distinct in many ways, is the Arabian desert covering the greater part of the peninsula which juts far to the south into the Indian Ocean. The interior is little known; few travelers have penetrated the wilderness sparsely occupied by wandering, hostile tribes of Arabs, "the People of the Camel," but enough is known to indicate that there is a limited water supply which in a few localities was developed centuries ago, most of the works being now in ruins. It is quite possible that a thoro geological exploration and the sinking of deep drilled wells may reveal the existence of artesian or other water, as has been found to be the case in portions of our own so-called American desert. The construction of wells is one of the first undertakings to be considered in this vast area. Fringing the Arabian desert on the northwest between the wilderness and the Mediterranean lies a narrow strip of country of intense concern to all peoples, n'amely, Palestine, for centuries the home of the Jewish race. Altho a relatively small spot on the map, it possesses extraordinary interest. For the greater part it is semi-arid; only a small percentage of the land is suitable for cultivation; but these lands, if supplied with water, can be made highly productive and capable of supporting a larger population than that now living within the country. It possesses little or no mineral wealth, and its value from a commercial standpoint may be said to reside almost entirely in the tourist or pilgrim



Palestine and the peninsula of Sinai are cut off from the Arabian desert to the east by one of the most extraordinary of natural phenomena. the depression of the Dead Sea. This has been formed by the dropping of a long slender portion of the earth's crust, thus forming a steep-sided valley at the bottom of which the Jordan riverruns from north to south and loses its water in the lowest point, now occupied by the Dead Sea. more than 1200 feet beneath the level of the Mediterranean. This long narrow valley forms a formidable obstacle to travel, especially to the construction of railroads and highways directly from the Mediterranean into or across the Arabian desert toward Baghdad. Because of this condition, namely, the deep narrow valley and the broad desert, travel and trade have been confined largely to the sea coast; in going from the highly cultivated lands in Egypt to the densely populated area in the vicinity of Baghdad the caravans have crept up northerly along the Mediterranean to a point west of the upper end of the valley of the Jordan and then turning easterly have cut across to the Euphrates, avoiding the more direct desert route. There are known to exist, out on the desert, the ruins of ancient places, which indicates that water has been had and possibly may be had again. It is believed that the lines of travel may be shortened and made more direct by the discovery and development of underground water supply.

The greatest of all undertakings, however, as far as the food supply and the future prosperity of Asiatic Turkey are concerned, is the complete irrigation and drainage of the vast plains and low lands between the Tigris and Euphrates rivers extending down to the Persian Gulf.

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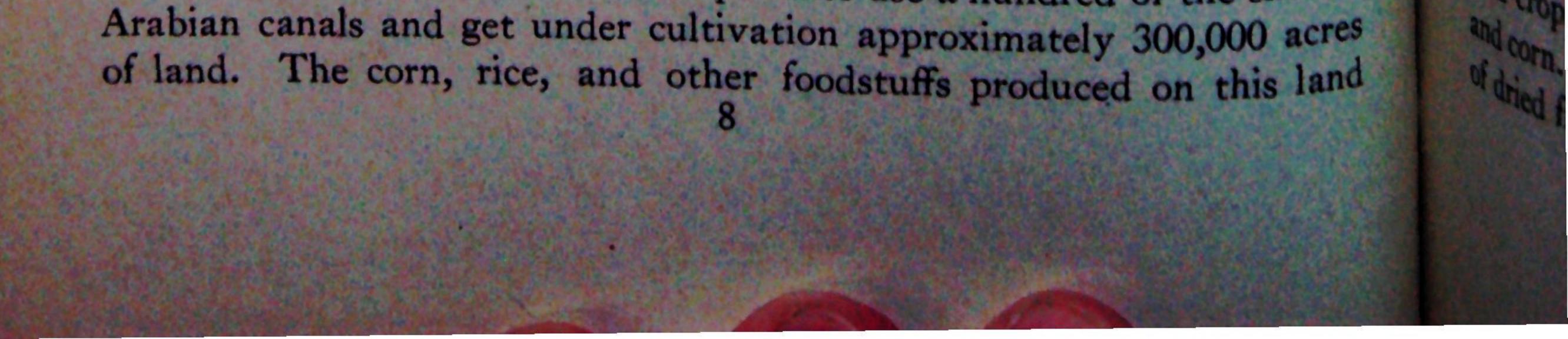
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Here have dwelt at various times millions of people; here were constructed and operated for centuries large canals, not only those leading from the Euphrates but others taking water from the Diala and other streams issuing from the Persian highlands to the east. These great works of ancient times have been neglected and many of the canals have become filled by drifting sand or, occupied by the unregulated mountain streams, have lost their character as artificial channels and appear as creeks or rivers.

Shortly before the outbreak of the great world war, the Turkish government employed Sir William Willcocks to begin an examination with a view to restoring some of these works. Fortunately operations had progressed to such a point that when the British occupied the country in 1917, they were able to put into use a hundred of the smaller Arabian canals and get under cultivation approximately 300,000 acres of land. The corn rice and other fooder for the smaller



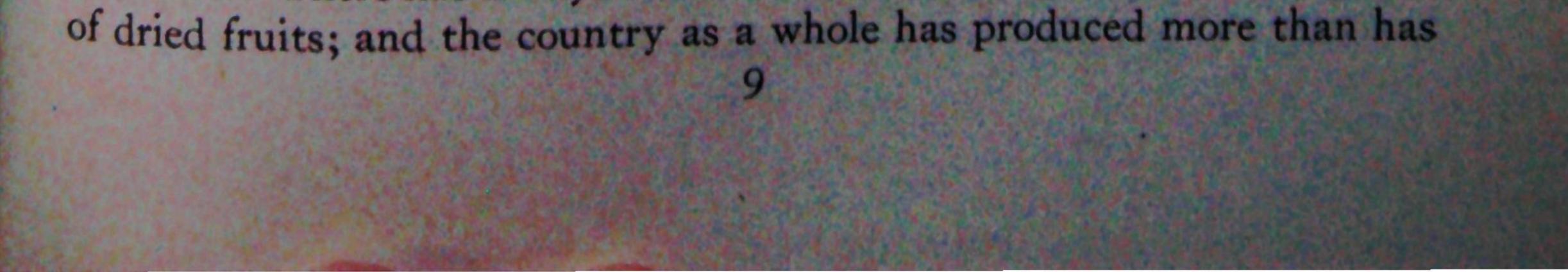
were of inestimable value in maintaining the British army and in reducing the transportation of supplies from overseas.

With a stable government assured the time will not be far distant when storage reservoirs and power development should be planned at the head waters of the Tigris and Euphrates. All of this work should be controlled in accordance with the superior uses in irrigation of the water lower down in Mesopotamia and Babylonia. Endless troubles are likely to arise if an attempt is made to include under one government a portion of the headwaters of these streams, and under another the lower portions where the waters are employed in agriculture.

Irrigation is not by any means confined to the regions watered by the Tigris-Euphrates and their tributaries. Here, it is true, are the largest canals and the greatest extent of nearly level land capable of being utilized in the production of crops. To the north on the plateaus and in the valleys of Anatolia and to the west in Syria the artificial watering of agricultural fields has been practised from time immemorial. There are innumerable small irrigation systems utilizing the water of mountain streams, as at Damascus, Aleppo, and other important cities, making possible the maintenance of a large population and diversified industry through the ability to obtain foodstuff in the near vicinity.

Most of these irrigation systems have deteriorated through lack of helpful governmental control and oversight; the efforts of the cultivators have not been properly directed nor have they been encouraged or even permitted to make many needed improvements. The entrance of the Germans into portions of Asiatic Turkey marked a new era, in that the irrigation possibilities were appreciated and various enterprises entered upon, the most notable being in the vicinity of Konia, the ancient Iconiun, the former capital of the country. Here the outlet of one of the large lakes behind the mountains west of Konia has been controlled and a suitable canal provided to carry the water to the edge of the desert southeasterly from Konia. This has permitted a wide expansion of agriculture, and the success here illustrates what may be accomplished elsewhere.

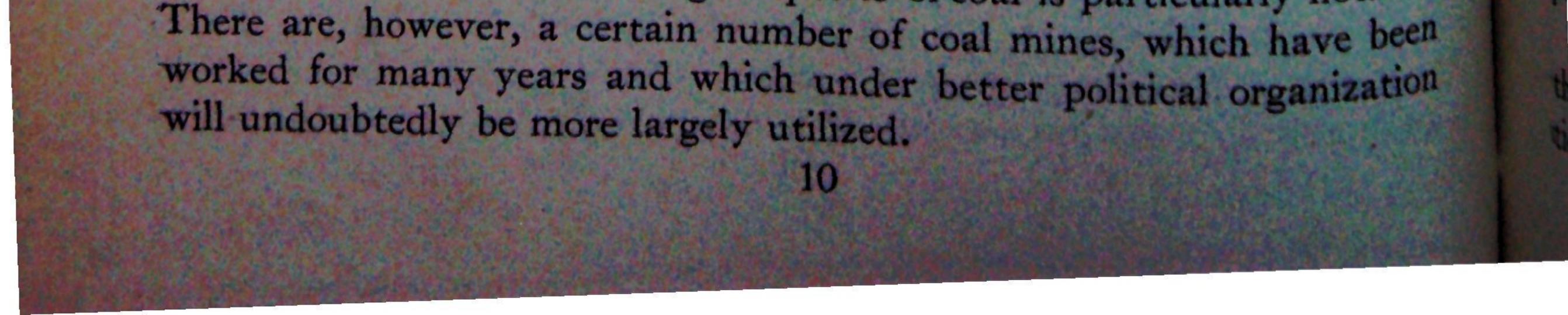
The agricultural products of Asiatic Turkey are as varied as the climate, and range from the highly valued tropical and semi-tropical fruits, dates, oranges, figs, and the like, to the more bulky but essential field crops of the plateaus and mountain slopes, such as barley, wheat, and corn. There has always been a considerable export trade, especially



been necessary for the sustenance of its inhabitants — this being due in part to the low standard of living. There is a possibility of notably increasing the agricultural area in all parts of the country especially through the conservation of water and the development of irrigation; but the largest gains will come through better agricultural methods, notably from the use of artificial fertilizers.

Grazing, on the open sheep and cattle ranges, covers by far the greater part of the land surface, as is the case in western America. In both of these countries it is highly probable that on account of the scarcity of water the tilling of the soil will not require at the utmost more than 5 per cent of the area of the country, while over 80 per cent of the land, if utilized at all, must necessarily be devoted to grazing. In this classification as grazing area may be included the vast deserts where, tho feed for cattle or camels is scanty or even entirely absent for months or years at a time, yet, following one of the rare rains, there springs up a sparse growth which is utilized by the wandering herds. This desert or semi-desert country, like that of New Mexico and southern Arizona, will be more completely utilized when, as stated above, it has been possible to search out the sources of water and dig or drill wells to furnish a supply for the animals, which with such water resources will be able to graze over considerable tracts of scanty herbage. Forests occupy perhaps 10 per cent, more or less, of Anatolia and Armenia; they are confined to the rougher higher country, the elevated table lands and mountain slopes. Much of the woodland is open, with scattering trees and shrubs, and might be classed either as grazing land or as forest, the conditions being similar to those in our own country where many of our great national forests contain relatively few large trees and are valuable chiefly for grazing purposes. Nevertheless, this tree growth should be encouraged, as it has great value in furnishing timber in a country where this is greatly needed and in favoring water conservation. The destruction of the forest growth by unregulated grazing, particularly by goats, has greatly reduced the prosperity of the country.

The known mineral resources, while valuable and attractive, are not so large as might be anticipated in a country of this extent, being far below those of an equal area in the United States. As in our own arid west, the absence of large deposits of coal is particularly notable.



Copper and the more precious metals occur in a few localities, and gold mines have been worked from time immemorial. The legendary wealth of Croesus was derived from the auriferous streams in western Anatolia.

Petroleum is for the present the most important of the raw materials. It has been known and used from earliest times, the pitch of Hit being employed in making water-tight boats and for embalming purposes. Reconnaissance of the oil fields and localities where oil may be discovered has been conducted by agents of the Standard Oil Company and by British officials. The results have not been made public, but enough is known to lead to the belief that extensive deposits may yet be revealed by deep drilling. The oil fields on the extreme southeast in or near Persia have been largely developed by the Anglo-Persian Oil Company. The utilization of the oil from this field was one of the most important factors in aiding the British in the advance of their army up the Tigris River to Baghdad. In fact it may be said that the control of these valuable deposits of oil is one the great factors of international importance and of future commercial success.

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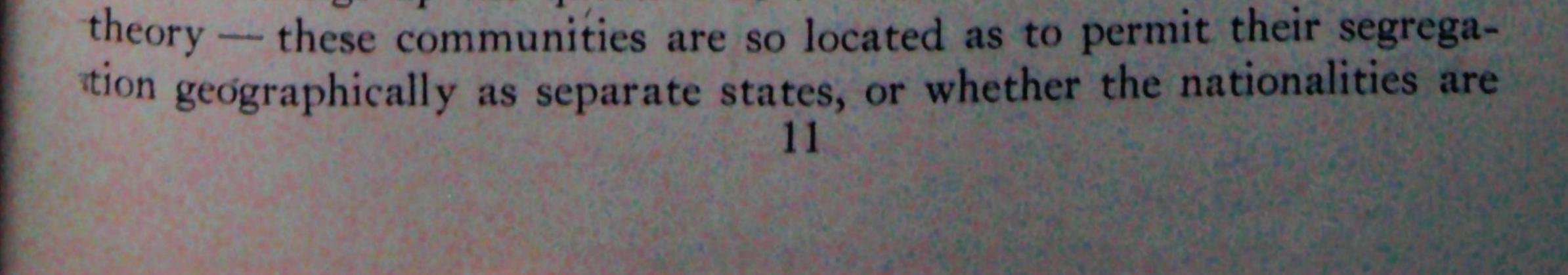
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The above enumeration of the resources of the country, the comparison of present conditions with possible improvements, and prospective gains to individuals or to states, emphasizes the danger which will continue to threaten the peace of the world if this vast country is left in its disorganized and helpless form as a tempting bait, to arouse the predatory instincts of men in control of corporate or national forces. The many diverse races or religions held together in one empire by the ruling Turkish class are each clamoring for independence and are asserting the claims of nationality. This condition has been recognized in the proposed covenant of the League of Nations as reported to the Peace Conference, February 14, 1919, in Article 19, paragraph 4, where the following provision appears: "Certain communities formerly belonging to the Turkish Empire have reached a stage of development where their existence as independent nations can be provisionally recognized, subject to the rendering of administrative advice and assistance by a mandatory power, until such time as they are able to stand alone. The wishes of these communities must be a principal consideration in the selection of the mandatory power."

This brings up the question as to whether in fact — as opposed to



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The country as a whole is usually considered as falling into certain divisions as follows:

1. Armenia, on the northeast. This is made up of high plateaus and snowy or forest clad mountain masses from which issue the great rivers. Here the agricultural conditions and possible industries are quite distinct from those of other portions of Asiatic Turkey. This country might be more or less arbitrarily outlined and set off as the home of the Armenians, but even here they are in the minority, being outnumbered by the Kurds and other peoples who occupy the land.

2. Anatolia or Asia Minor proper. This lies farther west and is composed of somewhat lower and more arid plateaus. It is the home of the Turkish peasantry, which is here the predominating class and race.

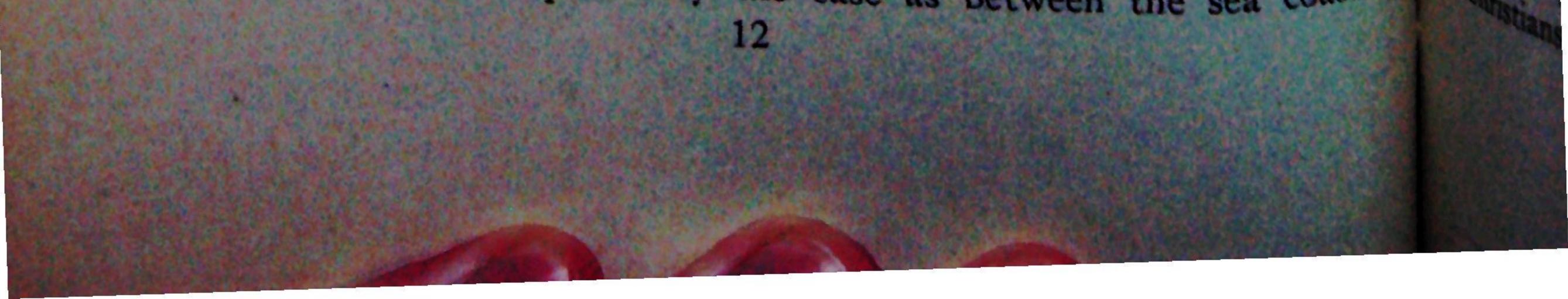
3. Mesopotamia and Baylonia stretch from the foothills of Armenia toward the south and east to the Persian Gulf. Here is the land of extreme heat — a country needing irrigation but capable of supporting an immense population. It is now held by Great Britain; the Arab tribes and town dwellers appear to be content under British rule.

4. Arabia with its great desert — the home of the Bedouin — with its fringing sea coasts and sacred cities of Mecca and Medina has apparently been promised recognition as an independent kingdom of the Hejaz.

5. Syria stretching from the Mediterranean coast to the valley of the Euphrates and overlapping into Arabia has been largely within the sphere of French influence and is quite distinct in its cultural development. As part of Syria it is customary to include the small, but very important, country of Palestine, where it is proposed that the Jews may have a national home, tho at present the Jews are in the minority in that country and most of the land is owned and has been occupied for centuries by Arabic-speaking people.

6. The Greek islands and cities fringing the coast are distinct in climatic and industrial factors from the rest of the country, but are not easily separated from the more typically Turkish lands by any well marked geographical feature.

While it is relatively easy to point to a general map and say that this is Armenia and that Arabia, yet it is practically impossible to draw a sharp line or to select any natural boundary which can be agreed upon as definitive. This is peculiarly the case as between the sea coast



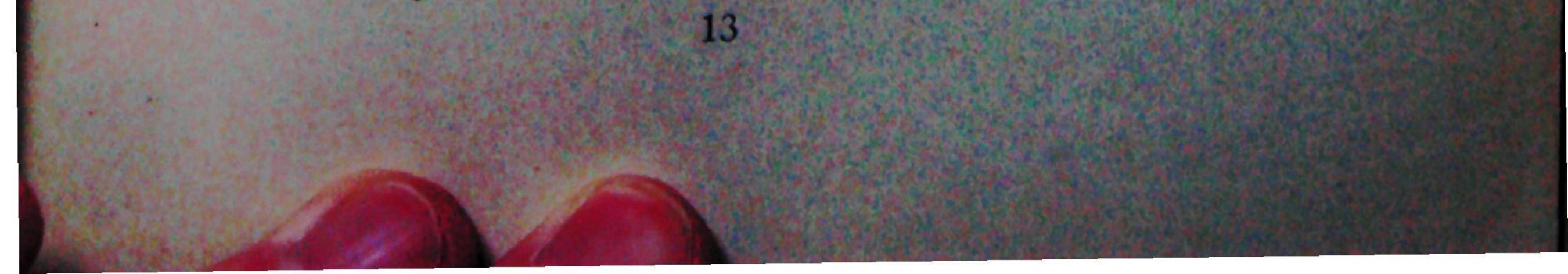
cities inhabited largely by Greeks and the interior towns occupied almost exclusively by Turks. In no one locality is there a predominance of people of a sufficiently high degree of experience in self-government to permit the carrying out of the broad rule of self-determination. For example, a place may be known as a Greek city and be characterized by Greek culture and yet the total number of Greeks may be so small as to render it impracticable for them to control the vast majority of Muslims.

Moreover, any suggested division emphasizes the dependence of one part of the country upon the other. In trying to parcel out the the land in this way one state or governing body will be given practically exclusive control of the petroleum or other mineral wealth and another of products whose manufacture is dependent upon the use of these minerals or fuels. In a country of this kind the very diversity of topography and of mineral and agricultural resources emphasizes the fact that any attempt to divide or cut off these provinces from each other only intensifies the struggles for existence which must take place if the people—for ages accustomed to one government—are grouped into many small states.

Moreover, the population in each of these smaller areas, as indicated above, is at present not sufficiently homogeneous or experienced readily to adopt self-government. There is no one dominating factor or large number of people of the same characteristics or religion to form a safe working majority. For example, the Christian communities almost everywhere would be in a minority; if their ideals of self-government

should be enforced, those of their more numerous Mohammedan neighbors must be neglected or suppressed.

In considering any division of the country according to nationalities it is important to emphasize that in Asiatic Turkey nationality is not so much a matter of ancestry or race as it is of religion. If, for example, the Armenian ceases to be a Christian and is converted to Mohammedanism he is no longer considered as an Armenian but as a Turk, and so on through the category. The Turks, at least the ruling classes, are not of Turkish descent except to a remote degree, as for generations the mothers of the Turkish rulers have been Christian captives or purchased slaves. Moreover, the different nationalities or religions are mingled together in nearly every important city, each having a considerable proportion of the various warring sects of Mohammedans, of Christians, and of Jews.



In spite of these difficulties it is generally assumed that there must be a division of the Turkish Empire into separate states; but in framing new constitutions the natural obstacles as well as those interposed by discordant races and religions must be given full consideration. There is need of more complete information and reliable statistics concerning the actual number and location of the various peoples who may be regarded as having proper national aspirations. The figures now available are contradictory and misleading; nevertheless, they indicate that, if Armenia is to be devoted primarily to the Armenians, then this minority ultimately must have full authority and power to hold in subjection the majority of the population who, tho perhaps not quite

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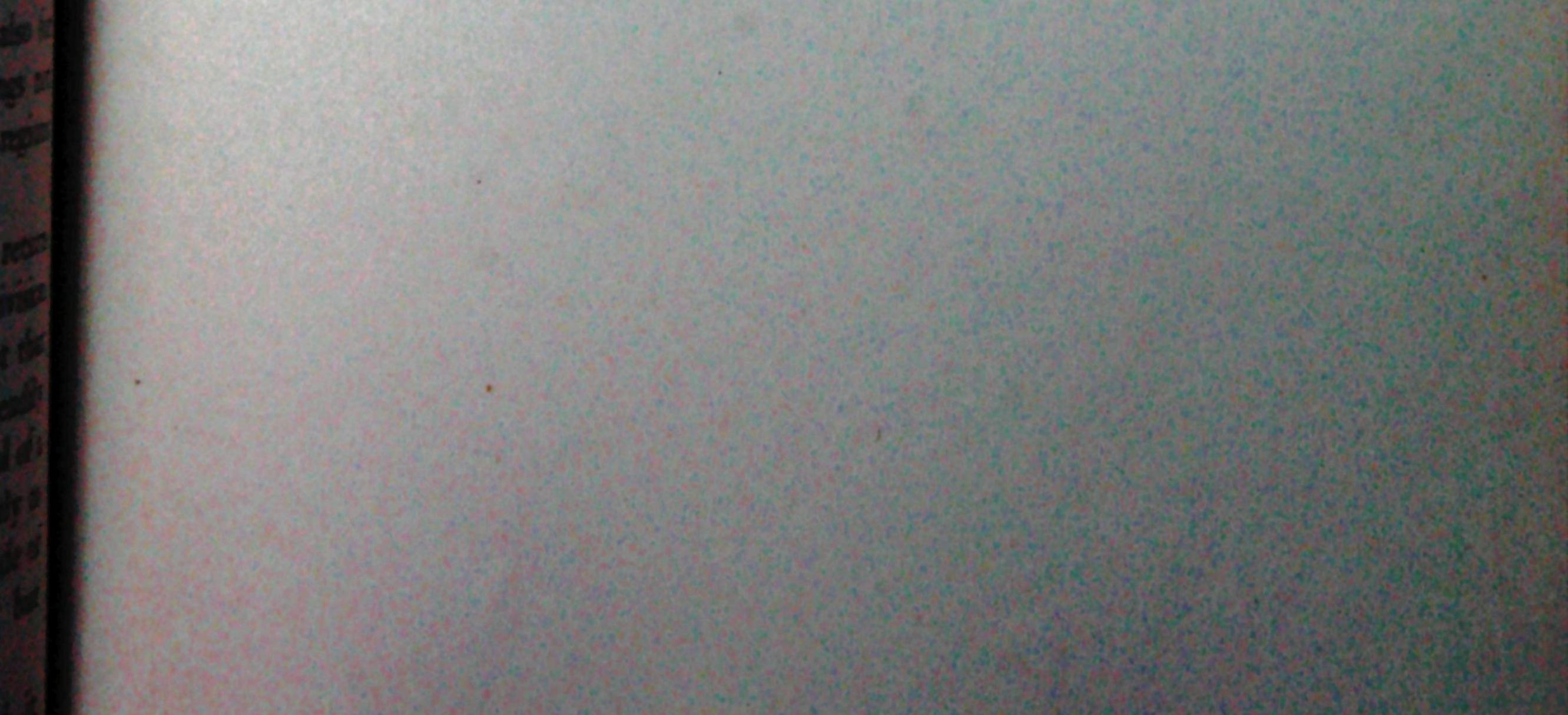
If the Greek cities are to pass under Greek control, there must be provision for protection of the interests of the non-Greeks who now form the majority of the population. In the same way there must be a system of treaty arrangements securing to the citizens of adjacent states the enjoyment of the use of water which arising in Armenia or Anatolia is needed for cultivation of lands in Mesopotamia, Syria, or near the Greek cities. Furthermore, the inhabitants of the lower lands should be assured of their rights to store or control the floods at the head waters even tho these are in the adjacent states. There must be ample provisions not only for freedom of commerce, but also for religious toleration and the pursuit of happiness. These things not having been permitted by the Turks, their conception in these regions where strife has been so long encouraged is almost unknown. While the opinion of the world will probably not tolerate the return of the Turks to power and is inclined toward the division and subdivision of the country into smaller nationalities, yet there is little doubt that the general future prosperity and well being of all would be more readily secured by having the entire area held as a whole under the control of a single mandatory power broad enough and strong enough not only to prevent internal strife, but more than this to build up the attitude of mutual toleration and respect among the closely intermingled but mutually antagonistic peoples.

Assuming that the unity of the country cannot be preserved, it becomes apparent that steps should be taken to the end that an agreement satisfactory to all concerned may be arrived at allowing large bodies of people to be shifted from one state to another, the land being



exchanged or purchased, thus permitting the scattered Armenians to be brought together within Armenia and the Kurds, in part at least, to be moved to communities of their own.

While the difficulties involved in any of these proposed adjustments are great, yet it is believed that wise statesmanship based upon a full knowledge of the country, its people, and its laws will be able ultimately to overcome them. The crying needs of the natives, the depth of degradation and despair to which they have been subjected, and the contrast offered by the natural opportunities which surround them should inspire unselfish effort and confidence in ultimate success. Looking beyond the immediate toil and trouble involved there can be seen the vision of great achievement. Already the British in Babylonia have shown what can be accomplished in two years of just and intelligent control. Their success may be considered as a forerunner of that which may be achieved throughout the length and breadth of this land in securing permanent homes, prosperity, and happiness to its recently oppressed inhabitants.



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