Radio station WUOM, University of Michigan, Ann Arbor, Michigan.

Collins Radio Company.

Cedar Rapids, Iowa, Collins Radio Co. [1949?]

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WUOM

OF THE

UNIVERSITY OF MICHIGAN

Published by COLLINS RADIO COMPANY, Cedar Rapids, Iowa

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RADIO STATION
WUOM

UNIVERSITY OF MICHIGAN

ANN ARBOR, MICHIGAN.



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WUOM

of the

University of Michigan

The University of Michigan may be justly proud of its past and its future prospects in the field of radio education. Activities in this field started in the very earliest days of broadcasting when members of the University faculty were transported to Detroit to present programs over the nation's oldest station, WWJ. In 1923, students and faculty in the College of Engineering constructed a transmitter and broadcast programs from the campus to the crystal sets of Ann Arbor. The call letters, WCBC, were forfeited one year later because of inadequate funds to modernize the equipment and for the production of programs.

In 1925, the Broadcasting Service of the University was organized, with Waldo Abbot as Director of Broadcasting, for the purpose of presenting programs from the campus over various commercial stations. For twenty-three years this practice continued, with a varying number of programs, with the cooperation of all of the Detroit stations and other AM stations in the state. At times, as many as nineteen programs a week were presented over WJR, Detroit, but commercial commitments cut down on the donated time on the air in other years. It was not until frequency modulation began to be discussed that the University authorities were convinced of the desirability of a University owned and operated station. When the Federal Communications Commission set aside bands for educational broadcasting in FM, the University of Michigan was one of the first to file an application for a construction permit. Due to wartime restrictions and the changing of the frequency modulation bands, it was not until July 1, 1948, that the station went on the air with a frequency of 91.7 megacycles. Originally, the call letters were WATX but, after long perseverance, these call letters were changed to WUOM. While the construction permit was granted for a 50,000 watt transmitter, the initial unit was a 3 kilowatt transmitter (at present 10 KW) with a Wincharger tower,

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with eight bays, located upon Peach Mountain, some sixteen miles west and north of Ann Arbor. Its elevation is the highest in Southeast Michigan--1440 feet above sea level or about 600 feet above the average terrain. This together with the 440 foot radiator gives the station a very fine primary coverage area.

The studios of WUOM occupy the entire fifth floor of the new Administration Building, located on State Street just two doors north of the Michigan Union. The four studios are all air-conditioned, and the entire studio section is floated. Studio walls are acoustically treated and also are of either parabolic or sawtooth construction. There are four control rooms, two of which may be used to control two adjoining studios. The control rooms are elevated so that artists in the studios will not obstruct the view of the control operator. In addition to these control rooms, there is a recording room equipped with Magnecord tape recorders and a Presto two-turntable disc recorder. Studio D has a large picture window extending from ceiling to floor opening upon the lobby so that visitors may observe broadcasts in this studio which is furnished in living room style. Studio A has an audience observation booth with thirty-eight upholstered theater seats. Collins Radio Company furnished the control consoles, speakers, microphones and other similar equipment. Broadcasting Service uses NBC Thesaurus and SESAC.

There are seven offices, which are connected with all studios so that auditions or programs may be heard from any studio in any office. One hundred and fifty-six telephone lines come into the studio area from auditoriums, assembly halls, theaters, athletic fields and buildings, and from other parts of the campus and town where remote programs are originated. There are also six outgoing lines to be used in feeding programs to other stations.

On the sixth floor of the Administration Building is the STL transmitter and on the tower of the building is the reflector which beams the WUOM programs sixteen miles to the transmitter at Peach Mountain. The 10 KW transmitter in connection with the tower and

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eight bays has an effective radiated power of 45,000 watts. The transmitter building contains not only the transmitting equipment but also an emergency studio with transcription turntables, workshop, kitchen, living quarters, and a two-car garage. Peach Mountain looks down upon a string of lakes and the Huron River and is a part of the Forestry Farm of the University.

The University of Michigan has emphasized adult education during its years upon the air. It interprets and reports to its audience the various activities of the University with emphasis upon education, research, and training with the intent to develop a broader knowledge, a fuller understanding and deeper appreciation of the humanities, of the sciences, and of social, economic, and civic problems. Entertainment consistent with the policies and practices of an institution of higher learning also form a part of the broadcasting schedule. It furnishes contact for communicating information concerning University affairs to alumni within its area, and cooperates with schools and other educational institutions. The Broadcasting Service, with Waldo Abbot as Director of Broadcasting, has as its primary purpose the operation of Station WUOM-FM, but in addition to the operation of its own station, programs are fed to other commercial frequency modulation stations within the range of its signal. About twelve of these stations rely upon the Broadcasting Service of the University for their sustaining programs and, in some instances, they relay such programs to more distant stations. Continuing the association with commercial AM stations that has been enjoyed for twenty-three years, the Broadcasting Service pipes programs by wire to five AM stations and sends out about twenty-five transcribed programs to other AM stations each week. During 1948-49, wired radio facilities were installed in the new building and with the aid of the student organization, programs were sent to all of the dormitories with a potential audience of twelve thousand under-graduates. The Broadcasting Service, for the past two years, has also arranged for a weekly television show which is put into the air by WWJ-TV. The University is interested in expanding its radio activities to include both television and facsimile.

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At the present time, the University is on the air fifty-five hours a week, devoting fifty per cent of its time to transcribed and recorded musical programs. Eleven per cent of the time on the air is live music presented by faculty, students, and organizations connected with the University's School of Music. Ten per cent of the time is taken up by programs in which students participate such as dramatic programs, round tables, campus news, etc. Sixteen per cent of WUOM's broadcasts are presented by members of the University faculties, either in talks, round tables, interviews, or quiz programs. Six per cent is devoted to sports and seven per cent to public service programs from off-campus sources. A series of programs for the fall of 1949 includes a weekly dramatic sketch based upon the original letters, journals, and rare books to be found upon the shelves of the William L. Clements Library of American History; a series devoted to the development of the peacetime use of atomic energy prepared in connection with the Phoenix Project of the University; a resume of legal decisions of the week by the faculty of the Law School; a weekly program on business conditions, answering inquiries submitted by small businesses in the state to the Bureau of Business Research; a weekly commentary by political scientists and historians upon world affairs, a medical series by the staff of the University Hospital and the faculty of the Medical School; book reviews by graduate students in the Department of Library Science; "The Editor Speaks" which presents the editorials of the week from the state newspapers; a weekly classroom discussion of masterpieces of literature; and Dr. Joseph E. Maddy will resume his radio classes in the teaching of playing wind instruments in which he formerly had some 40,000 young people in the state enrolled. An illustrated monthly schedule of programs is mailed to anyone upon request.

The staff consists of Waldo Abbot, Director of Broadcasting and Associated Professor of Speech; E. G. Burrows, Assistant Director and Program Director; Philip Duey, Music Director and Professor of Music; William Bender, Jr.; Script Editor; James Schiavone, Production Manager; William Flemming, Announcer; Marjorie Lundin,

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Assistant Music Director; Beth Watkins, Continuity Editor; Jerry Swantek, Studio Engineer, Dean Coston, Leighton Anderson, and Roger Shepard, Studio Operators; and at the transmitter, Frank Nader and Stanley Dilley. There are additional announcers as well as an additional transmitter engineer and a studio operator. These are all full-time employees of the Broadcasting Service. The Broadcasting Service is operated under an Executive Committee on Radio composed of Arthur L. Brandon, Chairman, Director of Information Services; Waldo Abbot, Associate Professor of Speech and Director of the Broadcasting Service (WUOM); Everett J. Soop, Director of the University Extension Service; Earl V. Moore, Professor of Music and Dean of the School of Music; Charles L. Jamison, Professor of Business Policy; and Karl Litzenberg, Professor of English.

There is close cooperation with the Speech Department in which radio courses are taught. The Speech Department has additional teaching studios in Angell Hall from which their programs originate. The Broadcasting Service (WUOM) is a branch of the Information Services of the University.

According to surveys made by commercial FM stations in the area served by the University Station, there is a potential FM audience of 250,000 FM receivers in the WUOM 50 microvolt signal area. This audience is augmented by the potential listeners in the area to which WUOM programs are relayed. Letters received from regular listeners indicate that the station, while operating with only 13,500 watts effective radiated power, had a listening area of 100 mile radius.

The National Association of Educational Broadcasters will hold its annual meeting in the studios October 15, 16 and 17; and the formal dedication of the WUOM studios and transmitter will be an all-University event during the week of November 27.

Dr. Alexander G. Ruthven, president of the University of Michigan, said in a recent bulletin on the present and future of radio broadcasting at the University of Michigan: "Educators as

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a group are usually slow to adopt new methods of instruction and have often been criticised for their conservatism in this regard. It is, to be sure, fortunate for our young people that our teachers have been careful in their use of youth as experimental material. That their reluctance to use new aids to instruction is sometimes carried too far, however, is illustrated by the history of the movies and of the radio. The apathy of the teaching profession during the early years of the motion picture and of broadcasting was an important reason why these agencies of communication were almost completely lost for educational uses ... Frequency modulation, gives our schools a fresh opportunity to make use of the radio, and it is earnestly to be hoped that they will take full advantage of it."

Waldo Abbot
Director of Broadcasting

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Equipment Facilities

of WUOM

A brief discussion of the engineering aspects of the new WUOM studios will reveal a number of interesting features. The method of operation and many of the engineering specifications were decided upon by WUOM engineers and staff. The Collins Radio Company was then called in to complete the technical details and construct the equipment along these lines. Basically, there are four studios and four control rooms. However, the particular programming requirements at the station made it desirable to distribute the control room supervision as follows: the first control room handles Studio A in straightforward fashion. The second control room AB, overlooks Studio A as well as B, and the console inputs are divided between these two studios. Control room BC operates in similar fashion. Control room D takes care of studio D only; D being the only studio which does not have duplicated control facilities.

The Control Room A and Control Room D consoles are basically similar and are the same physical size. Six low level input channels and one remote channel comprise the input circuits. Two program amplifiers are employed, one for the outgoing line feed and the other for auditioning purposes. Two monitor amplifiers and speakers also provide added flexibility. Remote programs are switched right at the console by means of a nine-button, two-bank pushbutton assembly.

The Control Room AB and Control Room BC consoles are similar to those described above except that each of these consoles has ten low level inputs as well as a remote. As is the case with every console, each input has its own preamplifier. Low level audio switching or mixing is not employed.

Perhaps the one main point of difference in system control between the WUOM installation and other radio stations is the fact that the usual master control room with its complex line switching facilities is nonexistent. Nevertheless, the four studio con-

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trol rooms can feed up to six different outgoing lines in any desired combination. In addition each control room has available fourteen incoming remote loops--any one of which can be handled at one time by the console pushbutton group. WUOM's point of view was that the economy of eliminating a master control room operator would make the consideration of a special switching system very worthwhile. Consequently, each of the control room consoles is equipped with a set of line-out selector pushbuttons and status lights located between the two VU meters on the panel. It is possible for the studio operator himself to select the prescribed lines for a particular program.

The actual audio switching for the outgoing lines is done by relay units located in a separate cabinet rack. From this point, the lines are fed by independent isolation amplifiers. Although each console is capable of feeding all six lines simultaneously, a simple interlock system makes it impossible for a console to cut in to a line which is already in use by another control room. In actual practice, this method of switching has operated with a high degree of satisfaction for WUOM and is very easy to use.

Two cabinet racks located in the recording room contain all auxiliary monitoring equipment and an FM tuner. A single ten-watt amplifier drives all general building speakers: lobby, reception room, music library, etc. A second ten-watt amplifier is reserved for the audience room overlooking Studio A. A pair of two-watt amplifiers serves to monitor the recording channels. The various inputs to these units are selected on a control panel by means of rotary switches. Three separate two-watt monitors supply three different offices with program. In this case Autotune stepper units mounted in the cabinet rack select the desired channels. A ten-position remote control switch is provided in each office. Autotune switching eliminates the need for making long runs of all audio channels to the offices. One pair for each speaker plus a few DC control wires suffice.

A portable sound effects table for dramatic production completes the list of major equipment items. This unit has three

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transcription turntable mechanisms and four pickup arms so arranged that two arms can be placed on the same table for continuous playing of a sound effects record. A speaker cabinet associated with the equipment enables sound effects to be played acoustically into the regular broadcast microphone. There is also an electrical program outlet which connects to the control room console. When direct electrical feed is used a novel circuit enables the cast to hear the sound effect through the studio speaker. There is no danger of feedback, and the sound in the studio will not interfere with the program on the line.

The entire speech equipment system is unusually flexible. The generous use of jacks and patch cords contributes a great deal to this feature. The resultant engineering layout at WUOM enables the technical staff to provide the programming department with the wide variety of facilities needed in program production.

Robert D. Essig
COLLINS RADIO COMPANY

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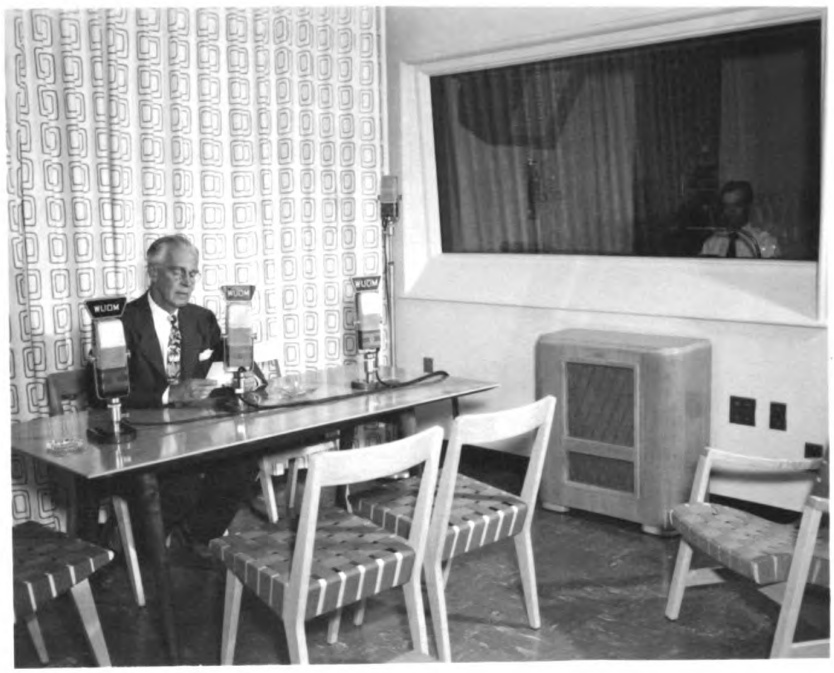
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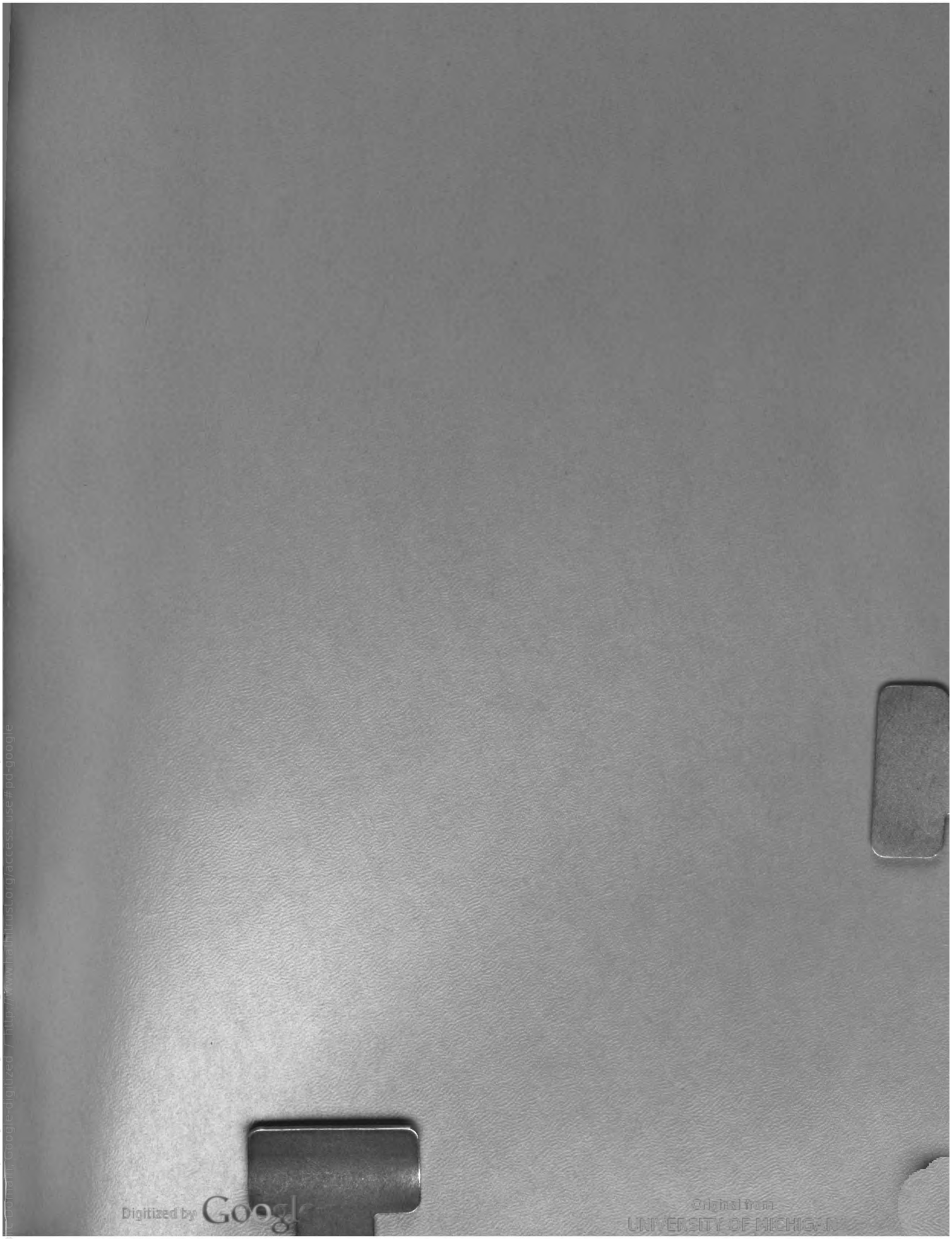
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